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AN

E S S A Y

ON

NAVAL TACTICS.

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AN
E S S A Y
ON
NAVAL TACTICS,

SYSTEMATICAL AND HISTORICAL.

WITH
EXPLANATORY PLATES.

IN FOUR PARTS.

By JOHN CLERK, Esq. of ELDIN,
FELLOW OF THE SOCIETY OF SCOTTISH ANTIQUARIES,
AND OF THE ROYAL SOCIETY OF EDINBURGH.

P A R T I.

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1790

THE
NAVY
ON
NAVAL TACTICS

SYSTEMATICAL AND HISTORICAL

WITH

THE LATEST IMPROVEMENTS

IN THE ART

BY JOHN CLARK



ADVERTISEMENT

A new Copy of the First Part of an
at present being printed in 1844
of about among friends. But through the
it has been found that the copy of the
has been only from the original of the
but from the original of the original
of the first part, which others have taken
trouble to make copies of, and to
know that time, he has been occasionally employed
in making copies, and he hopes, some interest
taken, it is not without reluctance that he
is now prepared to a more public edition.

The rest of the work is in great forwardness
and will be published as soon as it is finished. In
the mean time, it was thought proper to bring to
the public notice of the first part.

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** * The remaining Parts of this Work will consist of the following particulars,—viz.*

PART SECOND Will contain a system or theory of the attack of fleets from the leeward.

PART THIRD Will consist of an Historical Sketch of Naval Tactics; which, being divided into Periods, the three first, as showing the particular changes that have taken place in the construction and management of ships, in the nature and use of weapons, and in the different modes of practice, are more immediately applicable to such engagements as preceded the year 1782. Which year, the last of the American war, made remarkable by a series of interesting events, and new
and

and singular exertions of naval ability, forming the commencement of a Fourth Period in the History of Naval Tactics, will also make a Fourth Part of this Work;—of all which events, the decisive victory gained by Lord RODNEY on the 12th of April, is most interesting, as it is the first example given of cutting an enemy's line of battle afunder, and fully illustrates the theory and system of the attack from the leeward.

It will not, however, be found that the British seamen alone have made the year 1782 to be so distinguished. The late Monsieur SUFFREIN, Admiral of the French fleet in the East Indies, has been the first to furnish an example of an attack from the windward, different from those formerly exhibited; and, as an enemy, he also has had the merit, with a squadron of equal force, of making the attack, and of bringing a British squadron to action; a thing unknown for almost an hundred years back.

E R R A T A.

Page 7. l. 10. *For* irresistable *read* irresistible

31. 14. The letters of reference a, a, a, are omitted in Plate III. Fig. 3. but may easily be supplied or inserted by the reader.

50. 13. *Dele* the word eight.

112. 3. *For* somewhere in the intermediate space *read* somewhere at L in the intermediate space

120. 14. *For* innate courage exerted *read* innate naval spirit exerted.

T O T H E B I N D E R.

The Plates to be folded and placed together at the end.



NAVAL TACTICS.

INTRODUCTION.

UPON inquiring into the transactions of the British Navy, during the two last wars, as well as the present *, it is remarkable, That, when single ships have encountered one another, or when two, or even three, have been engaged of a side, British seamen, if not victorious on every occasion, have never failed to exhibit instances of skilful seamanship, intrepidity, and perseverance; yet, when ten, twenty, or thirty great ships have been assembled, and formed in line of battle, it is equally remarkable, That,

* By the present war is understood the American war; this Tract being written in October 1781, immediately after the surrender of Lord Cornwallis's army, the consequence of Admiral Greaves's unsuccessful rencounter with the French fleet off the mouth of the Chesapeak. A few copies only were printed, and at that time distributed among friends.

That, in no one instance, has ever a proper exertion been made, any thing memorable atchieved, or even a ship lost or won on either side *.

Whoever studies the history of the times, will be convinced of the truth of both these assertions. But many, without properly attending to the first, acknowledge, and endeavour to account for, the last, by insinuating that as our seamen, whatever they were in former times, are now, in no respect, preferable to those of our rivals, it would be absurd to expect from them a greater degree of exertion; and that the ships of our enemies, being better constructed, have had it always in their power to avoid an engagement, by outfailing us. As these opinions, unhappily, have already had too much influence, even among seamen, it will be partly the business of the following Treatise to show, That they are ill founded; and that it is neither to any abatement of spirit in our men, nor even to any fault in the construction of our shipping, that the want of success in the late great sea battles ought to be attributed.

From our insular situation, we are led to avail ourselves of a naval force, in some such manner, as that in which all animals are directed to make use of the weapons or talents with which nature has furnished them, whether for support or defence.

Why

* Neither the gallant manoeuvres off St Christophers, nor the memorable 12th of April, took place till the spring following.

INTRODUCTION.

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Why the effect of this propensity to sea affairs was not more conspicuous in the earlier part of our history, may be accounted for likewise from our insular situation. Occupied with disputes, while divided into two kingdoms, our attention was withheld from the rest of Europe ; and, separated as an island, we were much less the object of foreign interference : But, as soon as these internal disputes began to subside, which in a great measure they did from the influence that the hope of succeeding ELIZABETH had upon MARY Queen of Scots, and her son JAMES, this naval disposition broke forth with irresistible force ; and, cherished by successive improvements in commerce, every obstruction being removed by the Union of the two kingdoms, it has produced effects which have been the admiration of the world.

It is obvious that, from the greater extent of coast, number of bays, dangerous ferries, and from the various sea-carriage which our produce consequently requires, a greater portion of our people must be bred to a sea-faring life than is necessary in other nations. From these causes, as well as from the tempestuous nature of our seas, rapidity of our tides, and inconstancy of our climate, it may be expected, that our seamen, besides being numerous, ought at the same time to acquire courage and dexterity sufficient to encounter the difficulties to which they must unavoidably and constantly be exposed ; and that, from a combination of all these circumstances, a national character will arise, distinguished by a hardy and persevering intrepidity, which, without such causes, can never exist.

A

A prepossession in favour of one's countrymen is both natural and commendable ; but, where they have undertaken and uniformly succeeded in great and glorious enterprises, it does not require the influence of national prejudices to conclude that they are distinguished by an extraordinary character. Whether this may have arisen entirely from the causes above enumerated, or in some degree also from the nature of our government, is not the object of our present inquiry ; it is sufficient, for the purpose of this essay, that such a character is actually found to exist in this island.

During the reign of ELIZABETH, not to dwell upon the famous expeditions of DRAKE, CAVENDISH, NORRIS, and the Earl of CUMBERLAND, for which we refer to our best historians*, where can a more illustrious example of naval skill be met with, than the conduct displayed in the destruction of the SPANISH ARMADA ? in which we may observe that the prudence of sustaining a defence, by suffering that immense armament to waste its force in a contention with the winds and waves, was no less conspicuous than the intrepidity with which the repeated attacks were made.—SIR MARTIN FORBISHER's exploits and death before the harbour of Brest reflect additional glory on his countrymen.—Neither ought the spirited behaviour of JAMES LANCASTER before Fernambuco, in the Brazils, to be forgotten. Seeing the shore lined with great numbers of the enemy, he ordered his men to row their boats with such violence against the shore, as to split them

* See Hume's History, Chap. 51. 52. and 53. 4to edit.

them in pieces. By this bold action he both deprived his men of all hope of returning, unless by victory, and terrified the enemy, who fled after a short resistance.—We may also mention the second enterprise at Cadiz, when Essex threw his hat into the sea.—But the true character of the British sailor is so justly displayed in the obstinate resistance made by SIR RICHARD GREENVILLE, in a single ship, against a numerous Spanish fleet, as described by MR HUME, that an account of the action shall here be given in the very words of that great historian.

“ LORD HOWARD being sent with a squadron of seven
“ ships to intercept the West India fleet, was attacked by a Spa-
“ nish squadron of fifty-five sail. By the courageous obstinacy
“ of SIR RICHARD GREENVILLE the Vice-Admiral, who refused
“ to make sail with the rest of the squadron, one ship was taken,
“ being the first English man of war that had fallen into the hands
“ of the Spaniards. This action of SIR RICHARD GREENVILLE
“ is so singular as to merit a more particular description. He
“ was engaged alone with the whole Spanish fleet, of fifty-five
“ sail, which had ten thousand men on board; and from the
“ time the fight began, which was about three in the afternoon,
“ to the break of day next morning, he repulsed the enemy fif-
“ teen times, though they had continually shifted their vessels,
“ and boarded with fresh men. In the beginning of the action,
“ he himself received a wound, but he continued doing his
“ duty above deck till eleven at night, when, receiving a fresh
“ wound, he was carried down to be dressed.

C

“ During

" During this operation, he received a shot in the head ; and
 " the surgeon was killed by his side. The English began now
 " to want powder ; all their arms were broke or become useless ;
 " of their number, which was but a hundred and three at first,
 " forty were killed, and almost all the rest wounded ; their masts
 " were beat overboard, their tackle cut in pieces, and nothing
 " but a hulk left, unable to move one way or other. In this si-
 " tuation, Sir Richard proposed to the ship's company to trust to
 " the mercy of God, not to that of the Spaniards, and to destroy
 " the ship, with themselves, rather than yield to the enemy. The
 " master-gunner, and many of the seaman, agreed to this despe-
 " rate resolution ; but others opposed it, and obliged GREENVILLE
 " to surrender himself prisoner. He died a few days after ; and his
 " last words were, " Here die I RICHARD GREENVILLE, with
 " a joyful and quiet mind, for that I have ended my life as a
 " true soldier ought to do, fighting for his country, his Queen,
 " religion, and honour. My soul willingly departing this body,
 " leaving behind the lasting fame of having behaved as every
 " valiant soldier is in duty bound to do. The Spaniards lost in
 " this sharp, though unequal action, four ships, and about a
 " thousand men ; and GREENVILLE's vessel herself perished soon
 " after, with two hundred Spaniards on board *,"

It would be endless to enumerate every atchievement, where
 the capture, almost of every ship, must have furnished materials
 for a particular panegyric. MR HUME, in treating of this sub-
 ject, expresses himself in the following manner : " In every
 " action the English, though they had long enjoyed domestic
 " peace, discovered a strong military disposition ; and the
 " Queen, though herself a heroine, found more frequent oc-
 " casion

* See Hume's Hist. Ch. 43. first edit. 4to.

“ cation to reproach her Generals for encouraging their temerity, than for countenancing their fear or caution.” However much ELIZABETH might wish to temper the ardour of her subjects on some occasions, on others she does not seem to be wanting in her endeavours to rouse their spirit sufficiently; for, in a harangue before parliament, when speaking of the *Spanish Armada*, she said, “ But I am informed, that when he, Philip, attempted this last invasion, some upon the sea-coast forsook their towns, fled up higher into the country, and left all naked and exposed to his entrance; but I swear unto you, by God, if I knew those persons, or may know of any that shall do so hereafter, I will make them feel what it is to be so fearful in so urgent a cause*.”

Notwithstanding the great attention which ELIZABETH gave to the navy, yet, at her decease, it consisted of forty small ships only, of which number four did not exceed forty guns, and but two of these amounted to a thousand tons; twenty three others were below five hundred tons; of the rest, some were of fifty, and some even did not exceed twenty tons; and the whole number of guns belonging to this fleet was 774. If such brilliant and glorious actions were performed by so inconsiderable a force, what might we not expect from our navy in its present state? For the honour of the English at that time, it must be remarked, that, while the Royal Navy consisted of these forty ships only, so great was the national spirit, and so much was it united, that an infinite number of other ships of war was soon fitted out, as well by private gentlemen, at their own expence, as by

* Hume's Hist. ubi supra.

by the different sea-ports. Thus, the ill-concerted *, but formidable attempt of the *Spanish Armada*, by farther exciting the resentment, and affording the greater occasion of gratifying the military genius of the nation, now, about this period, first seriously exerted in naval enterprise, may be said to have laid the foundation for that renown which, ever since, has been maintained with so great spirit.

One would have thought, however, that the Naval force should not have encreased much during the reign of ELIZABETH's successor JAMES, when it is considered, that the practice of the English merchants, then, was to carry on their trade in foreign bottoms; yet, from the 1582, when the number of seamen, upon a computation, amounted to 14,295, until the year 1640, at the beginning of the domestic troubles, that number was found to be tripled.

After an interval of twelve years, the Dutch war was the next occasion of a farther display of our Naval character. But, it must be observed, that, while the English seamen had been so often engaged, and generally successful, in the lesser battles, or rather enterprises, yet, till now, they had never been tried in the greater, where a number of ships were assembled together. However, their wonted intrepidity, far from forsaking them on this new and unexperienced occasion, seemed to be augmented, or rather exalted to a state of enthusiastic fury, which was

* See Note A.

was supported with an unremitting perseverance during the course of three dreadful wars ; in the first of which we had nine pitched battles ; in the second five ; and in the third not less than five also ; making in all nineteen general engagements ; in one of which the fight was renewed for three additional days successively ; in another for two days ; and in a third for one day ; which may fairly be stated for other six engagements ; making, when taken together, twenty-five days of general actions. And, what would now be considered as ridiculous and impracticable, many of the officers appointed to the command of these fleets had never been in sea-service till they were past the age of 40, and some even of 50 years. Of the last number was BLAKE, who, although renowned for the many obstinate battles he had been engaged in, particularly that in the Downs, where he had no more than fifteen ships, did not refuse the combat when attacked by forty-two ships of the enemy, led on by the great VAN TRUMP. Yet for nothing was he more conspicuous than for his patriotic virtue. When in opposition to the party then in power, "It is still our duty," said he to the seamen, "to fight for our country, into whatever hands the government " may fall."

In all of these enterprises, whether with the Spaniards or the Dutch, whether in making the attack on castles, ships in harbours, or encountering ship with ship in close action, and formed in line of battle, we shall find the British seamen, whether equal or inferior in number, victorious or worsted, invariably fired with such enthusiastic courage, that these battles, though not always

D

decisive,

decisive, were constantly marked with strong effect, ten, twenty, thirty, or more ships, being taken or destroyed, two thousand men killed, and as many taken prisoners.

Therefore, without derogating from the gallant behaviour of the Dutch, which was equally displayed in those wars, we are bound, from these proofs and examples, to believe, that British seamen are, by nature or habit, endued with a peculiar extraordinary character. And, though the spirits of the people might have been, for a little time, depressed by the unfortunate battles of Beachy-head and Bantry-bay, which were fought some time after ; yet the natural impressions, so justly in favour of our seamen, soon recovered our confidence ; which was so much encreased by the battle off La Hogue, that, many years afterwards, the victories off Malaga and Messina were things to be expected of course.

The long intervals between these actions, and that of the war 1743, nowise abated the sanguine impressions respecting our seamen. Much effect was expected from the powerful fleet sent into the Mediterranean under the command of MATTHEWS and LESTOCK, who encountered the combined fleets of France and Spain on the 11th of February 1744. But, intending afterwards to give a more particular description of this affair, we shall only add, that MATTHEWS, who commanded, accompanied with the Marlborough and Norfolk, his two seconds a-head and a-stern, together with the Berwick in another place, broke out from the line of battle, got within a proper distance, and fought with great bravery ; but, being ill supported by the rest of the fleet, little more was

was done, than to shew what cannon-shot, at a reasonable distance, might effect. The two Admirals mutually accused each other; and MATTHEWS, in consequence of a trial, was broke. But the late King, without attending to the nice distinctions which had determined the court-martial, and being satisfied that the Admiral had behaved like a brave man, refused to confirm the sentence.

Happily some other more favourable opportunities offered, during the course of this war, in which, having a greater superiority, we were more successful. These were the capture of the May fleet by Admiral HAWKE; the voyage round the world by Lord ANSON; his bold attack of the Acapulco ship, so much his superior in force; his capture of six French ships of the line and Indiamen in October.

These, with the unremitting exertions in the many lesser sea-combats, removing the evil impressions made by the miscarriage in the Mediterranean, we still flattered ourselves that the glory of the British flag was yet untarnished.

But, be that as it may, we could not, without some emotion, recal to mind those tremendous and glorious battles with the Dutch, in which the spirited and *united* exertions of our seamen had been so justly celebrated, that, when the last war broke out, our minds were so prepossessed with enthusiastic partiality, that there were but few of our countrymen who did not firmly believe, and trust, that, if one British sailor was not a match for two of the enemy, he was at least a very superior being.

How

How great, then, was the disappointment of the nation, when it was known, that Admiral BYNG, commanding a British fleet of superior force, in a general engagement with the French, without losing a ship, almost without the loss of a man, half of his fleet not having fired a shot, had acknowledged himself worsted, by flying to Gibraltar, abandoning Minorca, and leaving the garrison at the mercy of the enemy, who were then masters of the sea !

Meanwhile, it is with astonishment that we must remark the innumerable lesser conflicts during the course of this war, where examples of persevering courage and daring intrepidity were invariably exhibited in private as well as public service, and generally of such effect, that one or other of the combatants, of necessity, was obliged to strike. A complete catalogue of which, however acceptable, would be too great for the bounds of this work.

It must be owned, indeed, that several fortunate and important occasions occurred during the course of this war, where numbers of ships were assembled, particularly that of HAWKE with CONFLANS ; but then the enemy, though nearly equal, after discovering great want of determination, fairly ran away, without coming to an engagement. But, as we had a great superiority on all these occasions, excepting the one now mentioned, the decision that took place, by means of that superiority, will never destroy the force of the general observation.

Again, while we remark the wonderful exertions, and constant success, attending the lesser conflicts ; while we remark
how

how much, and how often, our ships have been put to severe trial, by being exposed, in all weathers, during the storms of winter, the enemy not daring to set out their heads*; when, after recollection, we remark, that, to the numerous, bold, and successful enterprises, *coups de mains*, performed during the last 250 years, and that our enemies have only the single disgrace which befel us at Chatham to counterbalance so great an account, should we not at the same time remark, that this boasted intrepidity, this persevering courage of British seamen, has never once been brought to trial, where it would have been of the greatest importance; that is, in the greater engagements; of which, because this superiority has never had an opportunity of being displayed, the result has always been the same, namely, that, in such actions, our fleets, in the two last wars and the present, have been invariably baffled, nay worsted, without having ever lost a ship, or almost a man?

While we remark these circumstances, is it not evident, and will it not be admitted, that one of three things must be the fact, either that our enemy, the French, having acquired a superior knowledge, have adopted some new system of managing great fleets, not known, or not sufficiently attended to by us? or that, on the other hand, we have persisted in following some
E old

* Alluding to the Squadron of British ships kept in the Bay of Biscay during the course of last war, to watch over the motions of the enemy, in winter as well as in summer.

old method, or instructions, which, from later improvement, ought to have been rejected? Or, lastly, that these miscarriages, so often, and fatally repeated, must have proceeded from a want of spirit in our seamen?

But as, from the many instances given, both of public and private exertion, the mind must revolt at this last supposition, it follows, that these repeated miscarriages must have proceeded from one or other of the two first, or from both.

During the course of the wars with the Dutch, before mentioned, much improvement was made, particularly in the invention of signals. But the naval instructions then framed, although founded upon experience and observation, and though they might be admirably fitted for fighting in narrow seas, where these battles were fought; yet, from later experience, it will be found, that they have been but ill qualified for bringing on an action with a fleet of French ships, unwilling to stand a shock, having sea-room to range in at pleasure, and desirous to play off *manoeuvres* of defence, long studied with the greatest attention.

But, if it were possible that there could have remained a doubt of the truth or force of these observations before the breaking out of the present war, will not this doubt be resolved, if they shall be confirmed by every case that has followed since; whether we consider the intrepidity and exertion so conspicuous in the lesser conflicts, or the defect of conduct and address, so palpable

pable in most of the greater engagements, although, at the same time, our Admirals, whether by good fortune, by skillful seamanship, or by permission of the enemy, have never failed, on every occasion, to acquire their wish, *viz.* the circumstance of being to windward; excepting, indeed, on those occasions, where the FRENCH have chosen to keep such an advantage, without availing themselves of it; a circumstance which is plainly a confirmation that their system or mode is different from ours, and that they are uniformly determined never to be brought to make the attack, if it can be avoided.

From all which these three conclusions will naturally follow: 1st, That, in bringing a single ship to close action, and in conduct during that action, the British seamen have never been excelled: 2^{dly}, That the instructions, (by which is meant the method hitherto practised of arranging great fleets, so as to give battle, or to force our enemy, the French, to give battle upon equal terms), after so many and repeated trials, having been found unsuccessful, must be wrong: And, lastly, that, on the other hand, the French having repeatedly and uniformly followed a *mode* which has constantly the effect intended, they therefore must have adopted some new system, which we have not discovered, or have not yet profited by the discovery.

But, it may be asked, Have the French ever effected any thing decisive against us? Have they ever, in any of these rencounters, taken any of our ships? Have they ever, presuming upon

upon their superior skill, dared to make the attack ?—No. But, confident in their superior knowledge in Naval Tactic, and relying on our want of penetration, they have constantly offered us battle to leeward, trusting that our headlong courage would hurry us on to make the customary attack, though at a disadvantage almost beyond the power of calculation ; the consequences of which have always been, and always will be, the same, as long as prejudices prevent us from discerning either the improvements made by the enemy, or our own blunders.

To be completely victorious cannot always be in our power ; but, to be constantly baffled, and repeatedly denied the satisfaction of retaliation, almost on every occasion, is not only shameful, but, in truth, has been the cause of all our late misfortunes.

Before concluding this part of the subject, it may be proper further to observe, That, though our apprehensions of suffering in character and importance, as a Naval Power, might have been very great at the breaking out of the war with the Colonies, from an idea that the recent increase of that importance had arisen alone from the growth of these Colonies ; yet, from experience, from the great exertions made, and from the continuance of the war itself, it has been clearly proved, that that increase must have arisen from other resources, which will every day more and more be found to exist in the Mother Country herself. At the same time, from that superior exertion, so constantly and gloriously exhibited by our seamen in the lesser conflicts,

INTRODUCTION.

21

licts, as well during the course of the present as of the two last wars, we may rest satisfied that the character of the British tar is not in the least debased, but still as predominant as formerly.

Hence, if the American Colonies shall accomplish their wished for separation, Britain, by her force being more collected, and, with these resources, will yet be more powerful than ever.

F N A V A L



NAVAL TACTICS.

Of the attack from the Windward.

DEMONSTRATIONS*.

SECTION I.

Method of Attack in the case of Single Ships.

1. **S**UPPOSE a single ship to windward at B, (Plate I. fig 1.) discovering an enemy's ship to leeward at F, Is it the practice for B, in making the attack, to bear directly down, endwise, on F? No. Because, if B did so, the case would stand thus: Suppose

* As it is by the influence of the wind alone that all the movements of shipping are performed, for this reason, as well as for rendering the following demonstrations more simple, we have made the course of the wind to proceed from the top of the page in the annexed plans.

N. B.

pose the two ships of eighty guns each, the receiving ship F, by lying-to, (as in fig. 2.) would present a broadside of forty heavy guns bearing upon B, during a course of two miles, in which every shot might take effect, while B, in this position, (Plate I. fig. 2.) has it only in her power to bring the two light guns of her fore-castle, or bow-chace, to bear on F, a disadvantage greatly exceeding twenty to one. But the receiving ship F, by lying broadside to, will have all her masts and rigging more open, and, consequently, will allow shot to pass with less effect; her men, also, will be less exposed to the impression of shot, as it must take the breadth of the ship only; whereas the ship B, coming endwise down, must be greatly affected by every shot that may take place in the extensive area of her hull and rigging; the masts and shrouds, from being seen in a line, and the whole space, from the situation, being quadruply darkened with rigging, a shot taking place in that area, therefore, must carry away something of considerable consequence; and a shot taking place in the hull must rake the men from one end of the ship to the other: Which situation, or position of B to F, is understood to mean, that the ship B is raked by the ship F; and the consequence would be, that B would be disabled in her rigging, &c. long before she could arrive

N. B. In what follows, we have confined ourselves more particularly to the attack from the Windward; reserving what relates to the attack from the Leeward for a separate performance.

The British ships are distinguished by a red colour, and letters of reference beginning with the alphabet and ending at E; and the ships of the enemy are distinguished by a black colour, with letters beginning at F.

rive at a proper position for annoying F ; and, when she has attained this position, F, by being entire in her rigging, will have it in her power to fight, or make off at pleasure.

2. The method then is, B having the wind, will run down a-stern, as per dotted line, and getting into the course, or near the wake of F, or a position that will bring her parallel to the course of F, at a proper distance, she will then run up close along side of F, upon equal terms, (as in fig. 3.); or, otherwise, on shooting a-head, she will wear, and run down on the weather bow of F, (as in fig. 4.) till she shall force F to bear away to leeward, keeping close by F on equal terms; but, during the course, in both cases, carefully watching that F shall not have it in her power to bring her broadside to bear upon B, without retaliation.

SECTION II.

Comparison of the effect of shot directed against the rigging of a Ship, with its effects when directed against the hull.

3. It having been often said, that the French have made it a rule to throw the whole effect of their shot more particularly into the rigging of their enemy, and that the British, on the other hand, have been as attentive to point the force of their fire against the

G

hull

hull of the ship, it may be proper here to state the two cases, and compare the effect.

4. Let us suppose a ship of eighty guns wishing to avoid the effects of a close engagement, but, at the same time, lying-to, as at F, (Plate I. fig. 5.) intending to receive, with every advantage, an enemy, B, of equal force, coming down with an intention to fight her; and let us suppose that F, by aiming her fire at the rigging of B, shall have carried away any of the principal stays, eight or ten windward shrouds, or a fore-top mast, or any other rigging, though of much less consequence, but, at the same time, without having wounded a single man of the ship B; and suppose a second ship, consort to F, receiving such another ship as B, and by firing at her hull only, shall, without other damage, have killed thirty or forty of her men:—

5. In this critical juncture, when F and her consort are desirous of avoiding a close engagement, Which of the two ships of B will be most disabled from following after, and closing with the enemy? Is it not evident, that it must be the ship which has lost part of her rigging; for, as she will not be able to make sufficient sail, till after having been repaired, this necessary stoppage must be of greater consequence at this time than if she had lost a hundred, or even two hundred of her complement of men; the remainder being always sufficient to navigate the ship.

6. Again, let the comparative bulk of the two objects be considered: The hull of a ship, taken by itself, on the one side, and the

the whole area of the masts, rigging, and hull, taken on the other; and, as the killing and destroying of men may be the principal view in firing at the hull, suppose, for example, a ship of seventy-four guns, which has two decks, the breadth, or rather the height, of the line exposed, which will comprehend both these decks crowded with men, cannot exceed twelve feet, which sum, multiplied by 120, the length of the ship, will give 1440 feet, the whole area of the vulnerable mark: But the area, comprehending the rigging and hull, of such a ship, will give a surface of twenty times these dimensions.

SECTION III.

Of Bringing Great Fleets to Action.

And, 1st, A preliminary case, shewing, that any one ship, in her station in the line of battle, must be at a considerable distance to admit of being exposed to the fire of three or more ships, bearing upon her at one and the same time, extended, as they must be, in the line of the enemy.

7. As it has also been often said, that some particular ship has been exposed, in battle, to the canonade of three, four, or even five ships, all extended in the enemy's line, and all bearing upon

on her at one and the same time, figure 1. of Plate II. is intended to prove, that this ship must have been at a very great distance before she could have been exposed to the fire of even three ships, supposing them to be extended in line of battle a-head, and at one cable's length asunder. Suppose a line of battle, in which four or five ships are extended, as I, H, F, H, I, the spaces between each ship to be two hundred and forty yards, or one cable's length, and the length of each ship to be forty yards, so that the whole space between head and head, of any two ships, is two hundred and eighty yards, and let the perpendicular line FK, proceeding right out from the beam of the middle ship F, be divided into a scale of six cables length, making in all a distance of 1440 yards: Quere, At what distance may any opposite ship of an enemy be exposed to the fire of three ships bearing upon her at one and the same time? and let H, F, H, be the three ships lying-to, and extended in line of battle a-head; and let the opponent ship be stationed in any of the lines drawn through the points E, C, G, and parallel to the line I, I.

8. From inspection, it will be evident, that the opponent ship, stationed at the point E, 720 yards distant, cannot, for any length of time, be exposed to the fire of more than the centre ship F. For the ship H a-head, in *lying-to* in line of battle, will not be able to bring her head so much nearer the wind as to admit of her broadside to bear on E. But, supposing this to be practicable, will she not disorder her own line by being thrown out of her station, and also leave her head exposed to a raking fire from her opposites in the enemy's line?

9. Neither

9. Neither will it be more proper for H, the ship a-stern, to bring her broadside on E; for, in doing this, she will run to leeward, and expose her stern to be raked by her opposites.

10. But, if the opponent ship cannot well be exposed to the fire of the two ships, H, H, at the point E, she must be still less exposed at the point C, 480 yards distant; and it will be almost impossible for the ships H, H, to touch her at the point G, 240 yards, or one cable's length distant.

11. But one cable's length asunder is too small an allowance for accidents that may happen to ships extended in line of battle a-head. Therefore, let us suppose I, F, I, to be the three ships extended at two cables length asunder, or 480 yards between each of the three ships:

12. Then it will be evident, if the opponent's ship could not be much exposed, at the point E, to the fire of the three ships, when at one cable's length asunder, that, proportionally, she would not be more exposed at the point K, from the fire of the three ships now, when at two cables length asunder, which is double the distance, or 1440 yards.

13. But, as ships cannot well be kept in line of battle at a less allowance than one and a half cable's length asunder, it follows, that a ship must be at least 1080 yards distant, before she can be exposed or annoyed by a cannonade from three ships extended

H

in

in line of battle, and bearing upon her at the same time, which let be supposed at L.

14. Hence, it may be concluded, that, when it has been said, that any ship has been exposed to the fire of five, four, or even three ships of the enemy's line, that such ship has been at a very great distance. For, from what has been said, it will not be admitted, that either of the ships I, I, or H, H, a-head and a-stern of the principal F, will have time to bring their broadsides to bear directly upon the ship in question; their attention, as is supposed, being too much engrossed by their opposite ships in the enemy's line, at the points B, B, B, B, who assuredly would take the advantage then offered, and rake them fore and aft.

S E C T I O N IV.

Of the Principles necessary to be known for enabling us to judge of the different modes of bringing great fleets to action.

15. Let us suppose a fleet of ten, twenty, thirty, or more ships, of eighty guns each, extended in line of battle to leeward, and lying-to at F, (Plate III. fig. 1.) with the intention of avoiding an attack; and suppose another fleet at B, of equal number, and
force

force of ships, also extended in line of battle, three or four miles to windward, and desirous of making an attack, and coming to close action, on equal terms, with the said F :

16. From the nature of the attack on a single ship, (see Plate I.) it must be evident, that, if the fleet B shall attempt to run down, headlong, ship for ship, upon the squadron F, (as represented in Plate III. fig. 2.) each individual ship of B, having been exposed, during a course of two miles, to a cannonade, at a disadvantage of above twenty to one, must be disabled long before it can reach such a point of distance from F, as properly may be termed close action, or even to reach a situation proper for annoying her antagonist in the line F.

17. Again, let it be supposed, that B, though much disabled in his rigging, while in his course a, a, a, from the windward, has made his ships bring-to, at a distance from whence he can hurt F, (Plate III. fig. 3.) Is it to be expected that F, whose desire has always been to avoid a close engagement, and has already disabled the ships of B, will patiently lie still, or wait until B shall have time sufficient to disable him in his turn? Is it not evident that F, while unhurt, before he may feel the effects of a cannonade from B, and while enveloped in his own smoke, as well as that of the enemy, will withdraw himself, by bearing away to leeward to attain a new situation, where he may be out of reach of cannon shot, out-failing B, who would be obliged to repair his rigging, before he can be in order to follow, and make a second attack ?

18. Again,

18. Again, suppose that B, in place of going headlong, and endwise down, shall attempt to run down in an angular course, or lasking, as it has been called, (as in Plate III. fig. 4.) Is it not evident, that this will be a means of protracting the course of B; and, consequently, the duration of the unequal cannonade from F, with the certainty of having his headmost ships exposed to more than their share of the damage?

19. But it is also evident, (from fig. 5.) that, should any ship B in this angular line come to be crippled, her way, being stopped, may, of consequence, occasion a confusion amongst the ships that are next a-stern, some running to leeward, while others are endeavouring to get to windward of the disabled ship; and, while this point is settling, the time may be lost, and, of consequence, the necessary support to the ships a-head, now so far separated, may be too long retarded, as in the case of Mr BYNG. But as it may be said, that a stoppage of one ship a-head will not necessarily produce a stoppage in every ship a-stern, because they may go to leeward of the disabled ship: We Answer, That it is precisely what happened to Mr BYNG, to be afterwards illustrated by the case of the *Intrepide*, when we come to give a description of that gentleman's engagement. Besides, by the supposition, the ships a-head, in the van A, (Plate IV. fig. 1.) may be now engaged, and, of consequence, not having much headway, may be said to be stationary; therefore, every ship a-stern, if she shall attempt to bear down, as at D, D, from being confined to a determined course, must be brought into the position of being raked, when coming down before the wind,
(as

(as in fig. 2. Plate III.), and, consequently, of being completely disabled long before she can get close enough along-side of the enemy.

20. Again, the headmost ships, or van of B, having attained their station at A, that is, a-breast of the van of F, (as in Plate IV. fig. 1.), and having begun the cannonade, may we not suppose that F, whose conduct, or desire, has always been to save his ships, has instructed, that, so soon as any of his ships, particularly the van, shall begin to feel the effect of a cannonade, they shall immediately withdraw from danger.

21. And we are also to suppose, that, so soon as they have thrown in their fire upon the van of B, each ship, one after another, as instructed by F, shall bear away in succession, as at H, to form a new line at I I, two or three miles to leeward. Now, Is it not evident, from this cautious conduct, that F, seeing the embarrassment of B, and that his ships are disabled, and his van unsupported, will, by making a crowd of sail, endeavour to range past B, ship by ship, in succession, till his whole squadron has poured in their fire upon the van of B; and that he, F, will then bear away to join his headmost ships, and form a new line of battle to leeward, at I I, to be in readiness to receive a second attack, if B shall be so imprudent as to attempt it?

22. Is it not also evident, that, if any one or more ships of the squadron of F shall be crippled, they will have it in their power

to quit their station, being covered with smoke, at any time, and to fall to leeward, as at G, where they will be in safety? As a farther part of the system of manoeuvre, supposed to be adopted, it may be conceived, that ships in this manner shall be made to withdraw from battle, leaving intermediate ships as a cover, to keep up a good countenance in the line, and amuse the enemy. But, by the supposition and demonstration, the ships of the squadron B must be crippled, and much separated, long before they can get to their station, whether the attack shall have been made in the perpendicular direction, (as in Plate III. fig. 2.), or in the lasking manner, (as in fig. 4. and 5.); therefore, in both cases, B's van must inevitably be exposed to the effect of the last described movement, which was, that F, perceiving the ships of B in disorder, unsupported, and disabled from following him, will make sail, and discharge the fire of his whole line upon the van of B, ship by ship, as they pass in succession, and will form a new line to leeward, to be prepared, if another attack shall be made upon them.

A Farther Illustration.

23. Again, let B (Plate IV. fig. 2.) represent a fleet putting before the wind, each ship with an intent, when brought to, at a determined distance at A, to take up her particular antagonist in the line of the enemy F, to leeward; and, for argument's sake, let F be supposed at rest, without any motion a-head whatever.

24. From

24. From what has been said, (No. 22.), it may be admitted, that alternate ships of F's line, under cover of the smoke, being made to withdraw from battle, as at G G G; the intermediate ships left behind them in the line will be sufficient to amuse even the whole of B's fleet, while the ships G shall be forming a new line H H, as a support, from the leeward: That, in such case, B, after being disabled, as he must be, and not having foreseen the manoeuvre, will neither be able to prevent these intermediate ships from bearing away to join their friends, nor, were he able, would it be adviseable to follow them; for the same manoeuvre, with equal success and effect, can again and again be repeated.

25. In order to show the relative movements of both fleets, with respect to each other, Plate V. is divided, by a scale, into squares of a mile each, in which let F (fig. 1.) represent a fleet to leeward, with motion a-head, as required for good steerage, each ship having sufficient to keep her under command of the rudder, and let it consist of twelve ships occupying a space of two miles, as extended in line of battle, at one cable's length afunder*; and F's motion through the water, if at the rate of four

* The length of a ship of 74 guns is about	-	-	54 yards
Interval between two ships at one cable's length afunder	-	-	240

The sixth part of a mile	294
	6

Six ships, formed in a line of battle a-head, will extend about	
a mile in length, or 1760 yards	1764

And four large ships, when at $1\frac{1}{2}$ cable's length afunder, may form another scale sufficiently correct for a mile.

four miles per hour, may be expressed by the space comprehended by the perpendicular lines marked by F and G on the scale below. These four lines comprehended by F and G will also express the time in which any fleet, B, may perform his course, when coming down to the attack from the windward.

26. Let B be the opponent fleet, consisting also of twelve ships, and four miles to windward; and let the point A be 440 yards, or one quarter of a mile right to windward of the point G.

27. Then B, by putting before the wind, if he shall arrive at the point A, in the same time that F, the fleet to leeward, has arrived at the point G, his motion will have been at the rate of $5\frac{1}{2}$ miles per hour, as must be evident from the scale of miles placed at the top of the figure; and his course, as described by the lines B A, and C D, will be flanting or diagonal, forming an angle of 43 degrees with B C, his line a-head, and nearly 4 points large from the wind.

28. Again, if F, (Plate V. fig. 2.), by carrying more sail, shall move at the rate of six miles per hour, that is from F to G; then B, having his course made thereby the more flanting, will have just so much the greater difficulty of keeping his ships in line a-breast while coming down to the attack. For the leading ship meeting with no obstruction in her course, will push on, whereas every accident of obstruction accumulating, as it happens to each ship progressively, the rear, being affected in the greatest degree, will, for that reason, be left the farther astern. But, from the very form
of

of this slanting course, every ship a-stern will be apt to get into the wake of the ship a-head. Therefore, the whole fleet of B, van and rear, will not arrive in the same time at the line A D, so as to be in a perfect line a-breast, and parallel with the fleet to leeward, but will have assumed the lasking form, as represented at the points M, N, and O, in the different parts of the course.

29. And again, (in Plate V. fig. 3.), if the fleet to leeward shall keep his wind, so as to lie up one point, as per line of course F G, making an angle of $11\frac{1}{4}$ degrees with his former line of course K F K: Then the rears of the two fleets will thereby be removed at a much greater distance, and the van A, of consequence, must be sooner up with the enemy's van, and evidently so much the farther from support, while F, by bringing up his ships in succession, will have it in his power to disable the van A, (No. 21.) and will afterwards bear away as at H, unhurt, and at pleasure, while B, at this time, by the supposition, being crippled, or having his rear, D, obstructed, and at a distance, will be unable to prevent him. And, in all the three cases, it is evident that the fleet B, so soon as he shall approach within reach of gun-shot, must be exposed to the fire of F's whole line, for he will be a-breast of B continually in every part of his course.

30. But the difficulty of bringing the rear of the windward fleet to action will still be more increased, if the sternmost ships of the fleet to leeward, in place of keeping their wind, shall bear away occasionally, as at M L, (fig. 3.).

K

31. All

31. All which being admitted, the difficulty of bringing opponent fleets to close engagement may be accounted for, without being obliged to have recourse to that supposed inferiority, in point of sailing, imputed to our ships, compared to those of the French, our enemy.

32. Hence it appears, that a fleet, B, to windward, by extending his line of battle, with a design to stop and attack a whole line of enemy's ships to leeward, must do it at a great disadvantage, and without hope of success: For the receiving fleet, F, to leeward, unquestionably will have the four following advantages over him, which will be more particularly proved when we come to examine the real practice.

33. *First*, The superiority of a fire, above twenty to one, over the fleet B, while coming down to attack.

34. *Secondly*, That, when the ships of B are brought to at their station, if it blows hard, the shot from F, by the lying along of the ships, will be thrown up into the air, and will have an effect at a much greater distance; whereas, on the other hand, the shot from B, from the lying along of the ships also, will be thrown into the water, and the effect lost.

35. *Thirdly*, That F will have the power of directing, and applying at pleasure, the fire of his whole line against the van of B, who is now unable to prevent it, his ships being disabled, separated, and, therefore, unsupported.

36. *Fourthly*,

36. *Fourthly*, That F will also have a greater facility of withdrawing from battle the whole, or any one of the disabled ships, of his line.

37. If, then, after a proper examination of the late sea-engagements, or rencounters, it shall be found, that our enemy, the French, have never once shown a willingness to risk the making of the attack, but, invariably, have made choice of, and earnestly courted a leeward position: If, invariably, when extended in line of battle, in that position they have disabled the British fleets in coming down to the attack: If, invariably, upon seeing the British fleet disabled, they have made sail, and demolished the van in passing: If, invariably, upon feeling the effect of the British fire, they have withdrawn, at pleasure, either a part, or the whole of their fleet, and have formed a new line of battle to leeward: If the French, repeatedly, have done this upon every occasion: And, on the other hand, if it shall be found that the British, from an irresistible desire of making the attack, as constantly and uniformly have courted the windward position: If, uniformly and repeatedly, they have had their ships so disabled and separated, by making the attack, that they have not once been able to bring them to close with, to follow up, or even to detain one ship of the enemy for a moment; Shall we not have reason to believe, that the French have adopted, and put in execution, some system, which the British either have not discovered, or have not yet profited by the discovery?

NAVAL

DECLARATION

I, the undersigned, do hereby declare that the foregoing is a true and correct copy of the original paper.

Witness my hand and seal at the City of New York, this 1st day of January, 1864.

JOHN J. [Signature]

Subscribed and sworn to before me this 1st day of January, 1864.

[Signature]

WATSON

NAVAL TACTICS.



EXAMPLES.

INTRODUCTION.

It is proposed to illustrate the preceding DEMONSTRATIONS by EXAMPLES taken from late Engagements;—of which the following is a Catalogue, according to the order of time in which they happened.

Engagements in former Wars.

1. Admiral MATTHEWS' engagement with the combined fleets of France and Spain, off Toulon, February 11. 1744.
2. Admiral BYNG's engagement with the French fleet, off Minorca, May 20. 1756.

Engagements of the late War ;—twelve in number.

1. That of Admiral KEPPEL, off Ushant, July 27. 1778.
2. Admiral BYRON, off Grenada, July 6. 1779.
3. Admiral BARRINGTON, at St. Lucia.

L

4. Sir

4. Sir GEORGE BRIDGES-RODNEY captures the Spanish transports off Cape Finisterre, takes the Spanish men of war off Cape St Vincent.

5. His engagement with the French fleet, off the Pearl Rock, Martinico, April 17. 1780.

6. His rencounter with the same fleet, to windward of Martinico, May 15. 1780.

7. His second rencounter, about the same place, May 19. 1780.

8. Admiral ARBUTHNOT, off the Chesapeake, March 16. 1781.

9. Sir SAMUEL HOOD, off Fort Royal, Martinico, April 29. 1781.

10. Admiral PARKER, on the Dogger Bank, August 5. 1781.

11. Commodore JOHNSTON, Porta Praya, island of St Julian.

12. Admiral GRAVES, off the Chesapeake, September 5. 1781.

From this Catalogue, that the proposed Illustration may be made with the greater advantage, we shall begin with those engagements the most applicable to the subject, selected without attending either to the dates, or order in which they took place.

SECTION

S E C T I O N I.

Of Engagements, where the British fleets being to windward, by extending their line of battle, with a design to stop, take, destroy, or disable, the whole of the ships of the enemy's line to leeward, have been disabled before they could reach a situation from whence they could annoy the enemy;—and, on the other hand, where the French, perceiving the British ships in disorder, unsupported, and thus disabled, have made sail, and, after throwing in their whole fire upon the van of the British fleet, ship by ship, as passing in succession, have formed a line to leeward, to be prepared if another attack should be made.

1. Admiral BYNG's engagement with the French fleet, off Minorca, May 20. 1756.
2. That of Admiral BYRON, off Grenada, July 6. 1779.
3. Admiral ARBUTHNOT, off the Chesapeake, March 16. 1781.
4. Admiral GRAVES, off the Chesapeake, August 5. 1781.
5. Admiral Sir GEORGE BRIDGES-RODNEY, off the Pearl Rock, west end of Martinico, April 17. 1780.

I. *The*

I. *The Description of Admiral BYNG's Engagement with the French Fleet, off Minorca, May 20. 1756*.*

38. B. (Plate VI. fig. 1.). The British fleet, about one o'clock afternoon, upon the starboard tack, and after they had weathered the French fleet, F, then upon the larboard tack.

39. B. (Plate VI. fig. 2.). The British fleet edging or lasking down to attack the enemy, F, lying to, to receive them. (Vide No. 18. 28. and 29.).

40. A. The van of the British obeying the signal, by bearing away two points from the wind, but each ship steering upon her opposite in the enemy's line.

41. A. (fig. 3.) The five headmost ships of the British line brought-to, and engaged in a smart cannonade, but not till after having greatly suffered in their rigging by three broadsides received from the enemy, during a course of some miles, while, at the same time, they had it not in their power to make retaliation. (No. 17.).

42. G. The fourth ship of the enemy having received some little damage, or being so instructed, as Mr WEST has conjectured, bore away, that is, quitted the line, and, in a very little time after, the fifth ship, H, then the two headmost, I, and, after them, the third ship, for the same reason, it is presumed, followed their example,

* British, 13 ships, 4 frigates, 1 sloop.

French, 12 ships, 5 frigates.

ample, and quitted the line also; each ship, as she went off, occasioning repeated huzzas from the British Tars, who conceived that the superiority of their fire had beat these ships out of their line; and, lastly, about the same time, but in another part of the line, the third ship astern of the French Admiral, (the ship against which the Ramillies more particularly directed her fire), quitted the line likewise, and withdrew from battle. (No. 20. and 24.).

43. While matters were going on after this manner in the van, the Intrepid, the sixth ship of the British line, at B, having lost her fore-top mast, was so taken a-back, that her course was stopped. This, of consequence, produced a disorder and stoppage to the ships next a-stern, some designing to go to leeward, and others endeavouring to get to windward of the distressed ship, as at B. (No. 19.) *.

44. Fig. 4. Meanwhile, the centre and rear of the French, who, though at a great distance, had been busy firing random shot, perceiving this disorder in the British line, (at B. fig. 4.), made sail, and with impunity, threw in the fire of their whole line, each ship as she ranged past the van of the British; after which they bore away in succession to join their own van, and form a new line of battle three miles to leeward, (as in fig. 5.), to be prepared, should the British Admiral have any thought of making a second attack. (No. 21. and 22.).

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OBSERVA-

* The rate at which the ships were supposed to move through the water at this time, having their fore-sails and fore-top-sails set, might be full three miles per hour; and, with all their sails set, near six miles; *Admiral Byng's Trial*, p. 45.

OBSERVATIONS.

45. This engagement of the unfortunate Mr BYNG, whether we shall consider the British mode of making the attack, or the French mode of avoiding the attack, while it offers an example strictly applicable to the principles laid down (Sect. IV.), is also a proof, that neither the one mode nor the other is a new practice, but is of a date as far back as the former war 1756.

46. The British fleet being to windward, in running down to the attack in an angular course, and extending their line of battle, with a design to stop, take, destroy, or disable, the whole of the ships of the enemy's line, by having their headmost ships the longer exposed to an unequal cannonade, and therefore to a greater share of the damage, have been disabled before they could reach a situation from whence they could annoy the enemy.

47. That a single ship, in their line of course (No. 28.), to make the attack, the Intrepid, (No. 19.) having lost her fore-top mast, and her way by that means being stopped, occasioned a disorder among the ships immediately a-stern, some endeavouring to pass her to windward, and some to leeward; by which accident of losing a mast, how much soever impossible it is to guard against it, much time was lost, and support to the ships a-head retarded, at a time the most necessary, when far separated from the rest of the fleet, and while obliged to sustain a fire from almost every ship in the enemy's line in passing. (No. 21.).

48. On

48. On the other hand, that the enemy, from their position to leeward, perceiving the effects of that superiority of fire, which undoubtedly they had over the British fleet, coming down to make the attack, whether it was in the mode of running end-ways right before the wind, as it was said the van did for some part of their course, or lasking, as was the form in the approach of the centre and rear divisions, laying hold of the advantage, that is, of the disorder occasioned in consequence, and without loss of time, or remaining till they might be crippled themselves in their turn, crowded sail, and, in the mean time, made sure of disabling a part of the British fleet, that is the van; and whether it might, or might not, have been practicable for the enemy to have cut off any one, or more, of these headmost ships, now so far separated and unsupported, is not disputed; but, as they could not hope to succeed in an attempt of this kind without sustaining some damage, they, wisely preferring a more cautious conduct, kept their ships unhurt, to be the better prepared when formed in a new line of battle to leeward (No. 21.), to give the British Admiral a proper reception, should he again think of repeating the like attack, or should he afterwards attempt to throw in relief to the Castle of St Philips, or molest their troops employed in the siege, their particular object.

49. It has been said, that first the fourth ship from the head of the enemy's line soon bore away, quitting the line; then the fifth ship, afterwards the two headmost, and then the third ship, after that, followed their example; and, lastly, the third ship aftern of the Admiral, and about the same time, quitted the line also. This, as a manoeuvre, no doubt makes a part of their system, that alternate ships

ships shall be made to withdraw from battle (No. 24.), leaving intermediate ships, as a cover to sustain the line, and in this way to amuse the enemy in the mean time :—And it was not in consequence of the superior fire of the British van ;—for these ships of the French that withdrew, as described, had received no damage, and were in no way disabled. One gentleman, a witness in the long trial which followed this action, has these words :
 ‘ The French fourth or fifth ship from the van, seemed to me
 ‘ to have bore up from the fire of our ships in the van, and
 ‘ very soon afterwards the three headmost of the enemy, but
 ‘ none of them appeared to me to be disabled ; so that, whether
 ‘ it was to avoid action, or by a signal from their commander
 ‘ in chief, I know not ; I should rather imagine the latter, as I
 ‘ had not observed any such close * engagement, to oblige ships
 ‘ of their seeming force to avoid an action †.’

50. Another witness in the trial, the commander of the Portland ‡, the second ship of the van, being asked, ‘ Did you
 ‘ beat away the ship opposed to you by yourself, without the
 ‘ assistance of any other ship ?’ answered, ‘ No ; I can’t say that :
 ‘ She was a very heavy ship, the second ship, of greater force
 ‘ than

* The distance, on this occasion, between van and van of the opponent fleets, does at no time seem to have been less than four hundred yards. By many of the witnesses on Mr BYNG’s trial, it seems to have been understood, that nobody had been killed or wounded on board the fleet by musketry, not even in the van. On board the Defiance, the leading ship of the British squadron, small arms were, for some time, made use of ;—as also by the enemy, as was conceived by some ;—but without effect on either side, as it would appear ; for they were soon laid aside.

† Admiral Byng’s Trial, p. 38.

‡ Ditto, p. 58.

' than the Portland, and the third still greater, which must be a
' seventy-four gun ship: Neither did I expect they would have
' bore away so soon; but their fourth and fifth ships bearing
' away before, from the Captain and Buckingham, they bore
' away also, really to our great surprise.'

51. Here it might be proper to observe, alluding to what was premised in the Introduction (Page 6.), that neither was the usual spirit of British seamen any way deficient on this occasion, nor could the cause of miscarriage be attributed to any fault of construction in our ships. For the only opportunity given, by which any comparison could be made, in point of sailing, was when our fleet weathered that of the enemy, at one o'clock, immediately before the engagement. And this circumstance, if it was not a proof that the British ships were the better sailers of the two fleets, showed plainly, on the other hand, that the French, in their giving up the contest about the wind, were not only unwilling to hazard the danger of making the attack, but indeed preferred the leeward situation, from whence they could with the greater certainty disable their adversary's ships, while they might preserve their own unhurt. (See Introd. page 19.)

N

ADMIRAL

ADMIRAL BYRON'S ENGAGEMENT *with the*
FRENCH FLEET, *off Grenada, the 6th of July 1779.*

Extract of a Letter from Admiral BYRON, relative to his Engagement.

‘ It being my intention, from this intelligence, to be off St
‘ George’s Bay soon after day-break, I drew the ships of war
‘ from among the transports, leaving only the Suffolk, Vig-
‘ lant, and Monmouth, for their protection, under the orders of
‘ Rear-Admiral ROWLEY, who was intended to conduct the de-
‘ barkment of the troops; but he was to join me with these
‘ ships if I saw occasion for their service. One of the enemy’s
‘ frigates was very near us in the night, and gave the alarm of
‘ our approach. Soon after day-light, (~~eight~~ on Tuesday the
‘ 6th), the French squadron was seen off St George’s, most of
‘ them at anchor, but getting under way, seemingly in great
‘ confusion, and with little or no wind. The signal was imme-
‘ diately made for a general chase in that quarter, as well as
‘ for Rear-Admiral ROWLEY to leave the convoy; and, as not
‘ more than fourteen or fifteen of the enemy’s ships appeared
a ‘ to be of the line, from the position they were in, the signal
‘ was made for the ships to engage and form as they could get
‘ up: In consequence of which, Vice-Admiral BARRINGTON
‘ in the Prince of Wales, with Captain SAWYER in the Boyne,
‘ and Captain GARDNER in the Sultan, being the headmost of
‘ the

the British squadron, and carrying a press of sail, were soon
fired upon, at a great distance, which they did not return till
they got considerably nearer. But the enemy getting the
breeze of wind about that time, drew out their line from the
cluster they were lying in, by bearing away, and forming to
leeward, on the starboard tack, which shewed their strength
to be very different from our Grenada intelligence; for it was
plainly discovered they had thirty-four sail of ships of war,
twenty-six or twenty-seven of which were of the line, and
many of these appeared of great force. However, the general
chace was continued, and the signal made for close engage-
ment; but our utmost endeavours could not effect that; the
enemy industriously avoiding it, by always bearing up when
our ships got near them; and I was sorry to observe, that
their superiority over us, in sailing, gave them the option of
c distance, which they availed themselves of, so as to prevent
our rear from ever getting into action; *and, being to leeward,*
they did great damage to the masts and rigging, when our shot
could not reach them. The ships that suffered most were those
d *the action began with,* and the Grafton, Captain COLLING-
WOOD, the Cornwall, Captain EDWARDS, and the Lion, Cap-
tain CORNWALLIS. The spirited example of Vice-Admiral
BARRINGTON, with the former three, exposed them to a se-
vere fire in making the attack; and the latter three happen-
ing to be to leeward, sustained the fire of *the enemy's whole*
line, as it passed on the starboard tack. The Monmouth like-
e wise suffered exceedingly, by Captain FANSHAW's having bore
down, in a very gallant manner, *to stop the van of the enemy's*
squadron,

- f ' *squadron, and bring it to action.* But, from the very smart, and
 ' well directed fire kept up by these ships, and others that were
 ' engaged, I am convinced they did the enemy great damage,
 ' although *their masts, rigging, and sails, appeared less injured*
 ' *than ours* *. The four ships last mentioned, with the Fame,
 ' being so disabled in their masts and rigging as to be totally in-
 g ' capable of keeping up with the squadron, and the Suffolk ap-
 ' pearing to have received considerable damage in an attack made
 h ' by Rear-Admiral ROWLEY upon the enemy's van, I took in
 ' the signal for chace, but continued that for close engagement,
 ' formed the best line which circumstances would admit of, and
 ' kept the wind, to prevent the enemy from doubling upon us,
 ' and cutting off the transports, which they seemed inclined to
 ' do, and had the latter very much in their power, by means of
 ' their large frigates, independent of ships of the line. The
 ' French squadron tacked to the southward, and I did the same,
 ' to be in readiness to support the Grafton, Cornwall, and Lion,
 ' that were disabled, and a great way a-stern. But the Lion
 ' being likewise much to leeward, and having lost her main and
 ' mizen top-masts, and the rest of her rigging and sails being
 ' cut in a very extraordinary manner, she bore away to the west-
 ' ward when the fleets tacked, and, to my great surprise, no ship
 i ' of the enemy was detached after her. The Grafton and Corn-
 ' wal stood toward us, and might have been weathered by the
 ' French, if they had kept their wind, especially the Cornwall,
 ' which

* A strong proof of the advantage of demolishing an enemy's rigging, in preference to the killing his men, or striking the hull of his ship. (No. 4th, 5th, and 6th).

‘ which was farthest to leeward, and lost her main top-mast,
‘ and was otherwise much disabled; but they persevered so
‘ strictly in declining every chance of close action, notwithstanding
‘ ing their great superiority, that they contented themselves with
‘ firing upon these ships, when passing barely within gun-shot,
‘ and suffered them to rejoin the squadron, without one effort to
‘ cut them off. The Monmouth was so totally disabled in her
‘ masts and rigging, that I judged it proper to send directions, in
‘ the evening, for Captain FANSHAW to make the best of his
‘ way to Antigua, and he parted company accordingly.

‘ When we were close in with St George’s Bay, the French co-
‘ lours were seen flying upon the fort, and other batteries, which
‘ left no doubt of the enemy being in full possession of the
‘ island. To dislodge them was impracticable, considering the
‘ state of the two fleets. I therefore sent orders to Captain
‘ BARKER, the agent, to make the best of his way with the
‘ transports to Antigua or St Christophers, whichever he could
‘ fetch, intending to keep the King’s ships between them and
‘ the French squadron, which, at the close of the evening, was
‘ about three miles to leeward of us, and, I had no doubt, would
‘ at least be as near in the morning: For, although it was k
‘ evident from their conduct throughout the whole day, that
‘ they were resolved to avoid a close engagement, I could not
‘ allow myself to think, that, with a force so greatly superior,
‘ the French Admiral would permit us to carry off the transports
‘ unmolested; however, as his squadron was not to be seen next
‘ morning, I conclude he returned to Grenada.

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‘ It

‘ It is my duty on this occasion to represent, that the behaviour
 ‘ of the officers and men of his Majesty’s squadron was such
 ‘ as became British seamen, zealous for the honour of their
 ‘ country, and anxious to support their national character.
 ‘ The marines, likewise, and troops that were embarked, with
 ‘ their officers, in the King’s ships, behaved as brave soldiers;
 ‘ and, from the exemplary good conduct of those who got into
 ‘ action; from the visible effect which the brisk and well directed
 ‘ fire had upon the enemy’s ships, and from that cool deter-
 ‘ mined resolution, and very strong desire of coming to a close
 ‘ engagement, which prevailed universally throughout the squa-
 ‘ dron, I think myself justifiable in saying, that the great supe-
 ‘ riority in numbers and force would not have availed the enemy
 ‘ so much, had not their advantage over us in sailing enabled
 ‘ them to preserve a distance little calculated for deciding such
 ‘ contests.’

*The DESCRIPTION of ADMIRAL BYRON’S BATTLE
 off Grenada, July 6. 1779, taken from the foregoing Letter*.*

52. F. (Plate VII. fig. 1.) The French fleet, as they were seen at
 day-light off the town of St George, most of them at anchor,
 but

* British, 21 ships, 1 frigate, with a fleet of transports. French, 26 ships,
 7 frigates.

but getting under way, and seemingly in confusion, with little wind.

G. Frigates on the out-look.

B. The British fleet discovering them from windward.

53. B. (fig. 2.) The British now extended in line of battle a-head.

A. The three headmost ships under Vice-Admiral Barrington, carrying a press of sail, in consequence of the signal for general chase, were soon fired upon by the enemy, which fire was not returned till he got considerably nearer.

F. The enemy having now got the breeze of wind, are seen drawing out their line from the cluster they were lying in, and forming to leeward on the starboard tack.

54. B. (fig. 3.) The British fleet after the signal for close engagement, which, with their utmost endeavours, they could not effect; the enemy industriously avoiding it, by always bearing up when our ships got near them, as at F. Their superiority over us in sailing gave them the option of distance, which they availed themselves of, so as to prevent our rear from ever getting into action; *and, being to leeward, they did great damage to the masts and rigging, when our shot could not reach them.* Though the three headmost ships A, were exposed to a severe fire in making the attack, yet the Grafton, the Cornwall, and Lion, being farther to leeward, at C, and consequently nearer the enemy, suffered most, *having sustained the fire of the enemy's whole line as it passed them, to leeward, upon the starboard tack.* The
Mon-

Monmouth D also suffered considerably, by Captain Fanshaw's having gallantly *bore down to stop the enemy's van, and bring it to action*; as did the Suffolk, in another attack upon the enemy's van.

55. B. (fig. 4.) The British fleet forming the best line that circumstances would admit of, to prevent the enemy from doubling back upon us, and cutting off our transports, which they seemed inclined to do, by means of their large frigates, as well as their ships of the line.

C. The Grafton and Cornwall left far a-stern.

E. The Lion, being much shattered, making off to leeward.

56. F. (fig. 5.) The enemy having tacked to the southward, and upon the larboard tack.

B. The British, after having immediately got upon the same tack, to be in readiness to support the Grafton and Cornwall, who were disabled, and had been left a great way a-stern, as at C. But the Lion, being much more shattered, had bore away to the westward, as at E; and, to our great surprise, no ship of the enemy had been detached after her.

57. The similarity of this battle with that of Mr BYNG, already described, is so great, that, whether the mode in which the British made the attack, or the mode in which the French avoided it, shall be considered, we have no doubt of showing, that the circumstances in either case were equally effected by the principles laid down (Section IV.); but, as the importance of
the

the subject requires that this should be done in the most satisfactory manner, the observations made shall be supported by extracts from the Admiral's letter.

I.

Observations on the British Mode of Attack. Extracts from the Admiral's letter, in support of these observations.

58. That the Admiral by extending his line of battle, in an attempt to stop the van of the enemy, and bring it to action, it may be admitted, that it was with the intent of taking, destroying, or disabling every opponent ship.

59. In this attempt, however, the ships in the van, by the nature of the course they were obliged to take, (No. 27. 28). were exposed, for a long time, to a heavy fire, which they could not return, or did not return.

'The Monmouth likewise suffered exceedingly, by Captain Fanshaw's having bore down in a very gallant manner to stop the van of the enemy's squadron, and bring it to action'.—And the Suffolk appearing to have received considerable damage in an attack made by Rear-Admiral Rowley upon the enemy's van.' g.

The signal was made for the ships to engage and form as they could get up; in consequence of which, the Prince of Wales, the Boyne, and the Sultan, the headmost ships of the British, and carrying a press of sail, were soon fired upon, at a great distance, which they did not return till they got considerably nearer. Vid. a.

P

60. That

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60. That by this course, which must have been in the slanting or lasking form, (No. 28.) the ships of the van having got far a-head of the rear, were therefore the sooner in with the enemy; but being disabled by the fire they received in coming down, and becoming in a manner immoveable, or stationary, compared with the enemy, they were obliged to sustain the continued fire of their whole line, ship by ship, as they passed in succession, without having it in their power to stop the van, as intended, or even to bring a single ship of them to action.

61. That the rear, by the nature of this course also, not from any inferiority in point of sailing, compared with the enemy, being at first left far a-stern by the van (No. 28.) and afterwards, as may be supposed, having met with obstruction from disabled ships a-head, might have been prevented from carrying support to the van, in like manner, as was occasioned, by the *Intrepid*, in Mr BYNG's action, ships a-stern endeavouring to go to windward of the disabled ships, but some for certain passing to leeward; for how, otherwise, can we account for the situations of the *Grafton*, *Cornwal*, and *Lion*, or for the gallant attempt of Captain FANSHAW to stop the van of the enemy, and bring it to action?

The ships that suffered most, were those the action began with, the *Grafton*, Captain Collingwood, the *Cornwal*, Captain Edwards, and the *Lion*, Captain Cornwallis. The spirited examples of Vice-Admiral Barrington, with the former three, exposed them to a severe fire in making the attack; and the latter three happening to be to leeward, sustained the fire of the enemy's whole line, as it passed on the starboard-tack. Vid. d.

Their superiority over us in sailing gave them the option of distance, which they availed themselves of, so as to prevent our rear from ever getting into action. Vid. c.



II.

Observations on the French Mode of Receiving the Attack.

Extracts from Admiral BYRON'S Letter continued.

62. The French, on the other hand, seeing the British Squadron coming down to attack them, drew out their line of battle by forming to leeward; of necessity on this occasion, but admirably fitted for their manner of fighting, which peculiarly might be said to consist in an address qualified for saving their own ships, while they should have it in their power to disable those of their enemy. According to this system, then, so soon as the British Squadron approached within what might be thought the greatest possible range of cannon-shot, and while it was coming down before the wind, the French, from their whole line, kept up a heavy fire; but, as soon as any of the British ships had brought-to, and they, in their turn, began to be annoyed by the British fire, the ships the most exposed bore away, and withdrew from battle: (No. 20.) And whether this was in the van or center, most probably it was in the

The enemy getting the breeze of wind about that time, drew out their line from the cluster they were lying in, by bearing away and forming to leeward on the starboard-tack, which showed their strength to be very different from our Grenada intelligence; for it was plainly discovered they had 34 sail of ships of war, 26 or 27 of which were of the line, and many of these of great force. However, the general chase was continued, and the signal made for close engagement; but our utmost endeavours could not effect that, the enemy industriously avoiding it by bearing up when our ships got near them. Vid. b.

From

the manner as represented in Plate IV. fig.

2. that alternate ships should withdraw, while intermediate ships should be left to fill up the intervals, and support the line; (No. 49.) while the rear, to avoid every possibility of being forced into action, kept bearing away as at H, fig. 3. Plate VII. in like manner as before described (No. 30. and Plate V. fig. 3.

63. And now again taking advantage of the disordered condition of the British squadron; for, at that time, several of the headmost ships, from the severe fire received in coming down, lay crippled, while the Grafton, the Cornwall, and the Lion, having got considerably to leeward with the intention of covering their friends, were therefore the more exposed; the French, I say, laying hold of the opportunity, and without delay, or remaining till they might be disabled themselves, (No. 48.) made sail, and ship by ship, as many as could reach in passing, threw in upon the above ships the whole of their fire, when, having formed again, for the second time, to leeward, they were prepared, again and again to play the same manoeuvre, so often as the like attack should be repeated. (No. 21. 22. 48. and 49.

64. Whether it might, or might not have been practicable to cut off either of these

From the very smart and well directed fire kept up by these ships, meaning the *Prince of Wales*, the *Boyne*, and the *Sultan*, and afterwards the *Grafton*, the *Cornwall*, and the *Lion*, with the *Monmouth*, and others, that were engaged, I am convinced they did the enemy great damage, although their masts, rigging, and sails, appeared less injured than ours, the four ships last mentioned, with the *Fame*, being so disabled in their masts and rigging, as to be incapable of keeping up with the rest of the fleet; and the *Suffolk* appearing to have received considerable damage, &c. Vid. f.

The *Grafton* and *Cornwall* stood toward us, and might have been weathered by

these ships, the Grafton, Cornwall, or Lion, is not disputed; but, as they did not think they could succeed in that attempt, without sustaining some damage, they, as usual, preferred a conduct more cautious, and kept their fleet intire, that the reduction of the island Grenada, their particular object, might be carried on with the greater certainty of success. (No. 48.)

65. The damage received by the French ships must have been but trifling; for, otherwise, the British Admiral would not have had reason to express an apprehension that they might be able to double upon him and cut off his transports, which were, at the time, a considerable way to windward.

66. On this occasion, the whole of the French system seems to have been as completely followed out as in the former affair, that of Mr BYNG; they preserved their own ships entire, while they disabled those of their enemy; and so intent were they in keeping their main object in view, the making themselves masters of the island, that they cautiously avoided every chance that could lead them into a scrape, which a close engagement

Q.

possibly

by the French, if they had kept their wind, especially the Cornwall, which was farthest to leeward, and lost her main-top mast, and was otherwise much disabled; but they persevered so strictly in declining every chance of close action, notwithstanding their great superiority, that they contented themselves with firing upon these ships, when passing, barely within gun-shot, and suffered them to re-join the squadron, without one effort to cut them off. Vid. i.

I took in the signal for chace, but continued that for close engagement, formed the best line which circumstances would admit of, and kept the wind, to prevent the enemy from doubling upon us, and cutting off the transports. (Vide h.)

The French squadron tacked to the southward, and I did the same to be in readiness to support the Grafton, Cornwall, and Lion, that were disabled, and a great way a-stern; but the Lion being likewise much to leeward, bore away to the westward, and having lost her main and mizen topmasts, and the rest of her rigging and sails being cut in a most extraordinary manner, she bore away to the westward, when the fleets tacked, and,

possibly might have been, even when opportunities offered, apparently fortunate, such as the cutting off the transports, or the capture of those fore-mentioned ships, the Grafton and Cornwall, or the Lion.

and, to my surprise, no ship of the enemy was detached after her.

For although it was evident, from their conduct throughout the whole day, that they were resolved to avoid a close engagement, I could not allow myself to think, that, with a force so greatly superior, the French Admiral would permit us to carry off the transports unmolested. (Vide k.)

66. But besides the causes mentioned for retarding the rear of a fleet to windward, from getting into action with a fleet to leeward, there is another, which being a manoeuvre of course, may therefore have taken place on this occasion, although not taken notice of by Mr BYRON in his letter.—For illustration's sake, —If the opponent fleet to leeward, as extended in line of battle, shall lie up but one single point to the wind (No 29.) the vans of the two fleets must mutually approximate, and get within fighting distance; while the two rears, of consequence, may still be some miles asunder; and the more numerous the two fleets are, and the more they are extended, each of them in their proper line of battle, the greater will this proportional distance be: For, if two squadrons, consisting of twelve ships each, (as represented in Plate V. fig. 3.) shall make this distance between the two rears amount to one mile and a half; in this engagement of Mr BYRON's, where the two squadrons each of them, consisted of 21 ships, even the least numerous; it follows, that the distance between the two rears, according to the same ratio, might,

might, by this reason alone, have amounted to 4620 yards, or $2\frac{5}{8}$ miles.

67. Again, should the ships in the rear of the fleet to leeward, at the same time, keep bearing away, (as represented in Plate V. fig. 3. at L and M, or in Plate VII. fig. 3. at G and H.) and which undoubtedly they did in this engagement, then the space between the two rears will be still more increased.

68. From all which, the several advantages which a fleet to leeward has over an extended fleet making an attack from the windward, *as formerly enumerated*, are so fully confirmed, that in recapitulating them, we are obliged to make use of almost the same words as made use of by Mr BYRON himself in his letter.

69. *1st*, By their superiority of fire, the ships in the van were disabled in coming down to the attack; *and, before they were brought-to, in a situation from whence they could annoy the enemy.* (No. 33.)

70. *2dly*, By being to leeward, the enemy, he says, did great damage to our masts and rigging, while our shot could not reach them, *by being thrown into the water.* (No. 34.)

71. *3dly*, The Cornwall and Lion, part of the van, from being separated and unsupported, or being farther to leeward, as he says, suffered most, having sustained the fire of the enemy's whole line, as it passed to leeward. (No. 35.)

72. *4thly*, And is it not evident, as well from his letter, as from the description, that the enemy, from their leeward situation, laid hold of that advantage, by stealing away at pleasure? (No. 36.)

73. *Lastly*, From the letter it is clearly demonstrated, That the difficulty of getting the rear of the fleet brought into action, did arise from the nature of the attack itself, not from any abatement of spirit in the seamen, nor from any defect of the shipping on the one side, or even from any degree of superiority on the other.

ADMIRAL

III. ADMIRAL ARBUTHNOT'S ENGAGEMENT *with
the FRENCH FLEET off the Mouth of the Chesapeak, the 16th
March 1781.*

*Extract of a Letter from Admiral ARBUTHNOT, 20th March
1781, Linnehaven Bay.*

74. ' On the 16th, at six A. M. the Iris made the signal for
' discovering five strange sail to the N. N. E. and soon afterwards
' hailed, that they were large ships steering for the Capes of Vir-
' ginia, and supposed to be distant about three miles. I imme-
' diately concluded it must be the enemy I was in search of, and
' accordingly prepared the squadron for battle, by forming the
' line a-head a cable's length asunder, on a wind which was then
' fresh, and proceeding towards them with a press of sail. At
' this time Cape Henry bore S. W. by W. distant about 14
' leagues, wind at West; the French bearing from us N. N. E.;
' the weather so hazy, that the length of the British line could
' scarcely be discerned.

' At a quarter of an hour after eight A. M. the wind veered to
' N. W. by W. and soon after to N. by W. which gave the enemy
' the advantage of the weather-gage. About this time several of
' the enemy's ships were discovered to windward, manoeuvring
' to form their line.

R

' At

‘ At twenty-five minutes after eight, the Guadalupe ranged
‘ up under our lee, bringing the same intelligence with that al-
‘ ready given by the Iris, and was ordered to make sail, and en-
‘ deavour to keep sight of the enemy.

‘ At thirty-five minutes after eight, I directed the Iris, by
‘ signal, to make sail a-head, and keep sight of the enemy, as
‘ the haze appeared to thicken. The British line was by this
‘ time completely formed, and close hauled on the larboard tack.

‘ At twenty minutes after nine, the headmost of the French
‘ ships tacked, as did the rest in succession, and formed the line
‘ on the starboard tack.

‘ At thirty-five minutes after nine, the weather being very
‘ squally, I formed the line a-head, at two cables length asunder.

‘ At a quarter of an hour after ten, I made the signal for the
‘ squadron to tack, the headmost and weathermost first, and gain
‘ the wind of the enemy.

75. ‘ At a quarter of an hour after eleven, the headmost of the
‘ French line tacked; but one of them having missed stays, the
‘ rest wore, and formed the line on the larboard tack.

‘ At forty minutes after eleven, I re-formed my line, at one
‘ cable’s length asunder.

‘ At

' At twelve o'clock, there being a prospect of the van of my
' line reaching the enemy, the whole of my line tacked by sig-
' nal, the van first, and the leading ship continued to lead on the
' other tack.

' At one o'clock, the French squadron having compleated their
' form in a line a-head, consisting of eight two deckers, bore
' E. by S. the British line close hauled, steering E. S. E. wind at
' N. E.

76. ' At half an hour after one o'clock, the enemy being very
' apprehensive of the danger and inconvenience of engaging to
' windward, from the high sea that was running, and squally
' weather, wore, and formed their line to leeward of the British
' line.

77. ' At two o'clock, the van of my squadron wore in the line ;
' and, in a few minutes, the Robust, which led the fleet, and
' afterwards behaved in the most gallant manner, was warmly
' engaged with the van of the enemy. The ships in the van and
' center of the line were all engaged by half an hour past two,
' and by three o'clock the French line was broke ; their ships be-
' gan soon after to wear, and to form their line again, with their
' heads to the South-east into the ocean.

78. ' At twenty minutes after three, I wore, and stood after
' them. I was sorry to observe the Robust, Prudent, and Europe,
' which were the *headmost* ships, and received the whole of the
' enemy's

‘ enemy’s fire at their rigging, as they bore down, so entirely disabled, and the London’s main-top sail yard being carried away, the two first unmanageable, lying with their heads from the enemy, as to be incapable of pursuit, and of rendering the advantage we had gained decisive.

79. ‘ At half an hour after four, the haze came on so very thick, as entirely to intercept the enemy from my view. The Medea joined me soon after, which I directed to follow, and observe the route of the enemy, while I proceeded with the Squadron to the Chesapeake, in the hope of intercepting them, should they attempt to get in there.’

The DESCRIPTION of ADMIRAL ARBUTHNOT’S BATTLE off the Chesapeake, 16th March 1781.*

F. (Plate VIII. fig. 1.) The French fleet to windward, formed in line of battle, on the larboard tack.

B. The British fleet to leeward, on the same tack, at twelve o’clock, and in hopes that their van would be able to reach the enemy. (No. 75.)

F.

* British, eight ships and three frigates. French, eight ships and four frigates.

F. (Fig. 2.). The French fleet now formed to leeward, at half after one, having quitted their windward position G, from an apprehension of the danger and inconvenience there would be in engaging to windward, from the high sea that was running, and the squally weather. (No. 76.).

B. The British fleet in chace, keeping their wind.

F. (Fig. 3.). The French extended in line of battle, and receiving the attack, by firing upon the van of the British, as they came down before the wind.

B. The British, who had wore at two o'clock, left their position at C, are now attempting to stop the van, and steering every ship upon his opposite of the enemy.

Mr ARBUTHNOT says, at two o'clock, the van of my squadron wore in the line, and, in a few minutes, the Robust, which led the fleet, and afterwards behaved in a most gallant manner, was warmly engaged with the van of the enemy.

(Fig. 4.). The ships in the van A, and the center B, of the line, were all engaged by half past two, and by three o'clock the French line was broke at FF.

Their ships began soon after to wear, and form their line again, with their heads to the south-east, into the ocean, as at G, Fig. 4. (No. 77.).

80. (Fig. 5.). At twenty minutes after three, I wore and stood after them, (as at B, Fig. 5.), but was soon sorry to observe the
S Robust,

Robust, Prudent, and Europe, which had been the headmost, now the sternmost at A, as they had received the whole of the enemy's fire at the rigging, as they *bore down*, so entirely disabled, as was also the London, who had her top-sail yard carried away, that we were incapable of pursuit, (No. 78.).

OBSERVATIONS.

81. Mr ARBUTHNOT, by this battle, having defeated this first attempt of the enemy to acquire a footing in the Chesapeak ; and having relieved us of our apprehensions for the little army under General ARNOLD, that is, having had the singular merit of accomplishing, in the fullest manner, the principal object of his destination, it is much to be regretted, that an equal degree of praise is not due to the action itself. For, by this mode of attack, (Section IV.) as well as by the attempt to stop the van of the enemy, his headmost ships were so disabled, that they could neither get into close action, nor pursue ; whereas, on the other hand, the enemy being unhurt, and perceiving the disorder of the British fleet, that they were disabled from following them, —to avoid the effects of their fire, made sail, *wore*, and formed a new line of battle to leeward, (No. 77.), where they were prepared to receive a new attack, should the British Admiral attempt to make it.

82. This engagement, however, is distinguished from the two former, by a manoeuvre peculiar to itself ; and must be of some weight

weight in support of what has been advanced with respect to French ideas. For, quitting the windward situation, which they were possessed of, and assuming their post to leeward, as they did, (No. 76.), they plainly showed, that they were confident in their superior knowledge in naval tactic, that they relied on our want of penetration, and getting to leeward, that they trusted our irresistible desire would hurry us on to make the customary attack, (Introd. page 20.) though at a disadvantage, almost beyond the power of calculation; by which, the British Admiral, having his ships crippled in the first onset, never after was able to close with, follow up, or even detain one single ship of them for one moment. (No 37.).

IV. ADMIRAL GRAVES'S ENGAGEMENT *with the French Fleet off the Mouth of the Chesapeake, the 5th of September 1781.*

EXTRACT of a LETTER from VICE-ADMIRAL GRAVES, August 31st 1781, off Sandyhook.

83. ' I beg you will be pleased to acquaint my Lords Commissioners of the Admiralty, that the moment the wind served to carry the ships over the bar, which was buoyed for the purpose, the squadron came out; and Sir Samuel Hood getting under sail at the same time, the fleet proceeded together, on the 31st of August, to the southward.

' The

' The cruifers which I had placed before the Delaware could
' give me no certain information, and the cruifers off the Chesapeake had not joined. The wind being rather favourable, we
' approached the Chesapeake the morning of the 5th of September, when the advanced ship made the signal of a fleet. We
' soon discovered a number of great ships at anchor, which seemed to be extended across the entrance of the Chesapeake, from
' Cape Henry to the middle ground: They had a frigate cruising off the Cape, which stood in and joined them; and, as we approached, the whole fleet got under sail, and stretched out to sea, with the wind at N. N. E. As we drew nearer, I formed
' the line first a-head, and then in such a manner as to bring his Majesty's fleet nearly parallel to the line of approach of the enemy; and, when I found that our van was advanced as far as
' the shoal of the middle ground would admit of, I wore the fleet, and brought them upon the same tack with the enemy, and
' nearly parallel to them, though we were by no means extended with their rear. So soon as I judged that our van would be
' able to operate, I made the signal to bear away and approach, and soon after, to engage the enemy close. Somewhat after
' four, the action began amongst the headmost ships, pretty close, and soon became general, as far as the second ship from the
' center, towards the rear. *The van of the enemy bore away, to enable the center to support them,* or they would have been cut
' up. The action did not entirely cease till a little after sun-set, though at a considerable distance; for the center of the enemy
' continued to bear up as it advanced; and, at that moment, seemed

‘ seemed to have little more in view than to shelter their own
‘ van, as it went away before the wind.

‘ His Majesty’s fleet consisted of nineteen sail of the line; that
‘ of the French formed twenty-four sail in their line. After
‘ night, I sent the frigates to the van and rear, to push forward
‘ the line, and keep it extended with the enemy, with a full in-
‘ tention to renew the engagement in the morning; but, when
‘ the frigate Fortune returned from the van, I was informed,
‘ that several of the ships had suffered so much, that they were
‘ in no condition to renew the action until they had secured their
‘ masts; we, however, kept well extended with the enemy all
‘ night.’

‘ We continued all day, the 6th, in sight of each other, repair-
‘ ing our damages. Rear-Admiral DRAKE shifted his flag into
‘ the Alcide, until the Princess had got up another main-top
‘ mast. The Shrewsbury, whose Captain lost a leg, and had the
‘ first Lieutenant killed, was obliged to reef both top-masts,
‘ shifted her top-sail yards, and had sustained very great damage.
‘ I ordered Captain Colpoys of the Orpheus to take command of
‘ her, and put her into a state for action.

‘ The Intrepid had both top-sail yards shot down, her top-
‘ masts in great damage of falling, and her lower masts and yards
‘ very much damaged, her Captain having behaved with the
‘ greatest gallantry to cover the Shrewsbury. The Montague

T

‘ was

' was in great danger of losing her masts; the Terrible so leaky
' as to keep all her pumps going; and the Ajax also very leaky.

' In the present state of the fleet, and being five sail of the line
' less in number than the enemy, and they having advanced very
' much in the wind upon us during the day, I determined to
' tack after eight, to prevent being drawn too far from the Chesapeake, and to stand to the Northward.'

The DESCRIPTION of ADMIRAL GRAVES'S ENGAGEMENT off the Chesapeake, the 5. of September 1871.*

84. (Plate IX. fig. 1.) The French fleet at anchor, and extended across the entrance of the Chesapeake, from Cape Henry to the middle ground, who, as soon as they perceived the British fleet approaching, got under sail, and stretched out to sea upon the larboard tack, as at G.

B. The British fleet advancing to the middle ground, but not till after the French had left it, formed in a line nearly parallel to that of the French at G.

B. (fig. 2.) The British fleet, after having advanced as far as the shoal upon the middle ground, as per course A, wore, and having

* British, 19 ships, 7 frigates, and a fire-ship. French, 24 ships. Frigates.

having stood after the enemy, are now upon the larboard tack, extended in line of battle a-head, and almost a-breast of them.

(Fig. 3.) Mr GRAVES's says: ' So soon as I judged that our
' van would be able to operate, I made the signal to bear away,
' and approach as at B; and, soon after, to engage the enemy
' close.'

(Fig. 4.) ' Somewhat after four, the action began amongst
' the headmost ships, pretty close, and soon become general, as
' far as the second ship from the center, towards the rear. The
' van of the enemy bore away,' as at G, ' to enable their center
' to support them,' as at F, fig. 4. ' or they would have been
' cut up.

' The action did not entirely cease till after sunset, though at
' a considerable distance; for the centre of the enemy continued
' to bear up as it advanced, and that moment seemed to have
' little more in view than to shelter their own van, as it went
' away before the wind.'

85. Mr GRAVES might have added, that the French fleet, by making this movement, not only covered their own van as it went off, but they completely disabled the van of the British, now separated and unsupported, and who had been before greatly hurt in their rigging, by making the attack as they did, inasmuch, that hardly a ship was able to stand after, and prevent the enemy from forming a new line to leeward. (No. 16. to 37. inclusively.)

The

The fleets continued in fight of each other for five days successively, and, at times, were very near; but ours had not speed enough, in so mutilated a state, to attack them, and they showed no inclination to renew the action; but they generally maintained the wind of us, yet did not make use of that power.

87. The anxiety of the French to avoid a battle on this occasion, and their manoeuvres in consequence, that they might not again be prevented in their designs upon the Chesapeake, in which they had been disappointed by Mr ARBUTHNOT, are so much alike to what has already been described in two engagements, the one with the unfortunate Admiral BYNG, and the other with Admiral BYRON off Grenada, that the observations then made being equally applicable in this case, it will be unnecessary to repeat them.

V.

* Certain French Officers on board their own fleet, it is said, having received an invitation from the Admiral to dine with him, on seeing the British Squadron approaching the Chesapeake in the morning, and dreading they might be attacked before they could be prepared for action, pleasantly said to a gentleman, then prisoner on board, We have received an invitation from the Admiral to dine with him to-day, but it must have been from your Admiral, not our own;—expressing by this, an apprehension that they might lose their ship, and be taken prisoners.

V. SIR GEORGE BRIDGES-RODNEY'S ENGAGEMENT *with the FRENCH FLEET off the West-end of Martinico, April 17. 1780.*

Extract of a Letter from ADMIRAL SIR GEORGE BRIDGES-RODNEY, 26th April 1780, off Fort-Royal Martinico.

88. ' In this situation both fleets remained till the 15th instant, ' when the enemy, with their whole force, put to sea in the mid- ' dle of the night; immediate notice of which being given me, ' I followed them; and, having looked into Fort-Royal Bay, ' and the road of St Pierre's, on the 16th we got sight of them, ' about eight leagues to leeward of the Pearl Rock. A general ' chace to the North-west followed; and, at five in the morning, ' we plainly discovered that they consisted of twenty-three sail ' of the line, one fifty gun ship, three frigates, a lugger, and a ' cutter. When night came on, I formed the fleet in a line of ' battle a-head, and ordered the Venus and Grey-hound frigates ' to keep between his Majesty's and the enemy's fleets, to watch ' their motions, which was admirably well attended to by that ' good and veteran officer Captain Fergusson.

U

' The

‘ The manoeuvres the enemy made during the night indicated
 ‘ a wish to avoid battle, which I was determined they should not,
 ‘ and therefore counteracted all their motions.

‘ At day-light, in the morning of the 17th, we saw the ene-
 ‘ my distinctly beginning to form the line a-head. I made the
 ‘ signal for the line a-head, at two cables length distance. At
 ‘ forty-five after six, I gave notice, by public signal, *that my in-*
 a ‘ *tention was to attack the enemy’s rear with my whole force;*
 ‘ which signal was answered by every ship in the fleet. At seven
 ‘ A. M. perceiving the fleet too much extended, I made the sig-
 ‘ nal for the line of battle at one cable’s length asunder only.
 ‘ At thirty minutes after eight A. M. I made a signal for a line
 ‘ of battle a-breast, each ship bearing from the other N. by W.
 b ‘ and S. by E. and bore down upon the enemy. This signal was
 ‘ penetrated by them, who discovered my intention, wore, and
 ‘ formed a line of battle on the other tack; I immediately made
 ‘ the signal to haul the wind, and form the line of battle a-head.
 ‘ At nine A. M. made the signal for the line of battle a-head, at
 ‘ two cable’s length, on the larboard tack.

‘ The different movements of the enemy obliged me to be very
 ‘ attentive, and watch every opportunity that offered of attacking
 ‘ them to advantage.

‘ The manoeuvres made by his Majesty’s fleet will appear to
 ‘ their Lordships by the minutes of the signals made before and
 ‘ during the action. At eleven A. M. I made the signal to pre-
 ‘ pare

' pare for battle, to convince the whole fleet I was determined to
 ' bring the enemy to an engagement. At fifty minutes after eleven,
 ' A. M. I made the signal for every ship *to bear down, and steer for* c
 ' *her opposite in the enemy's line*, agreeably to the 21st article of the
 ' additional fighting instructions. At fifty-five minutes after eleven,
 ' A. M. I made the signal for battle; a few minutes after, the sig-
 ' nal that it was my intention to engage close, and, *of course, the* d
 ' *Admiral's ship to be the example*. A few minutes before one,
 ' P. M. one of the headmost ships began the action. At one
 ' P. M. the Sandwich in the center, after having received several
 ' fires from the enemy, began to engage. Perceiving several of
 ' our ships engaging at a distance, I repeated the signal for a
 ' close action. The action, in the center, continued till fifteen
 ' minutes after four, P. M. when Mons. Guichen, in the Cou-
 ' ronne, in which they had mounted ninety guns, *the Triumphant* e
 ' *and Fendant, after engaging the Sandwich for an hour and a*
 ' *half, bore away*. The superiority of the fire from the Sand-
 ' wich, and the gallant behaviour of her officers and men, ena-
 ' bled her to sustain so unequal a combat; though, before at-
 ' tacked by them, *she had beat three ships out of their line of bat-*
 ' *tle*, had entirely broke it, and was to leeward of the wake of
 ' the French Admiral.

' At the conclusion of the battle, the enemy might be said to
 ' be completely beat; but such was the distance of the van and
 ' rear from the center, and the crippled condition of several
 ' ships, particularly the Sandwich, who, for twenty-four hours,
 ' was with difficulty kept above water, that it was impossible to
 ' pursue

‘ pursue them that night without the greatest disadvantage.’
‘ However, every endeavour was used to put the fleet in order ;
‘ and, I have the pleasure to acquaint their Lordships, that, on
‘ the 20th, we again got sight of the enemy’s fleet, and, for three
‘ successive days, pursued them, but without effect, they using
‘ every endeavour possible to avoid a second action, and endea-
‘ voured to push for Fort Royal, Martinico : We cut them off.
‘ To prevent the risk of another action, they took shelter under
‘ Guadaloupe.

‘ As I found it was in vain to follow them with his Majesty’s
‘ fleet, in the condition they were in, and every motion of the
‘ enemy indicating their intention of getting into Fort Royal
‘ Bay, Martinico, where alone they could repair their shattered
‘ fleet, I thought the only chance we had of bringing them again
‘ to action, was to be off Fort Royal before them, where the
‘ fleet under my command now is, in daily expectation of their
‘ arrival. I have despatched frigates to windward and to lee-
‘ ward of every island, to give me notice of their approach.’

The

*The DESCRIPTION of SIR GEORGE BRIDGES-RODNEY'S
BATTLE off the West end of Martinico, the 17th of April,
1780*.*

89. F. (Plate X. fig. 1.) The French fleet to leeward, at daylight, distinctly seen forming the line a-head, and upon the star-board tack.

B. The British fleet to windward, thirty minutes after eight, formed in line of battle a-breast, and bearing down on the enemy, and after Sir George had given notice, by public signal, that his intention was to attack the enemy's rear with his whole force, which signal was answered by every ship in his fleet. Vid. a.

F. (fig. 2.) The French fleet in the act of wearing, and forming upon the larboard tack, having penetrated Sir George's signal. Vid. b.

B. The British fleet still in line a-breast, bearing down.

B. (fig. 3.) The British fleet formed in line of battle a-head, at two cable's length asunder, on the larboard tack, the signal to haul the wind being previously made at nine o'clock.

F. The enemy lying-to to receive the attack.

X

B.

* British, 20 ships of the line, 1 fifty, and 4 frigates. French, 25 ships, 8 frigates.

B. (fig. 4.) The British fleet, fifty minutes after eleven o'clock, every one of which bearing down, and steering for her opposite in the enemy's line, agreeable to the 21st article of the additional fighting instructions, according to the signal made for that purpose, vid. c. and after Sir George's signal to prepare for battle, which was intended to convince the whole fleet that he was determined to bring the enemy to an engagement. In five minutes after, the signal for battle was given; and, in a few minutes after this last, the signal that it was his intention to engage close, and, of course, the Admiral's ship, B, to be the example. Vid. d.

A. The British fleet extended in line of battle. A few minutes before one o'clock, one of the headmost ships at D began the action, and at one, the Sandwich, the Admiral's own ship, after having received several fires from the enemy, began to engage at C.

F. The enemy lying-to as before.

(Fig. 5.) The action continued above three hours, when Mons. Guichen in the Couronne, mounting ninety guns, the Triumphant, and the Fendant, after engaging the Sandwich, B, for an hour and a half, bore away, as at F, the superior fire from the Sandwich enabling her to sustain so unequal a combat, though, before she was attacked by them, she had beat three ships, G, out of the line of battle, had entirely broke it, and was to leeward of the wake of the French Admiral. At the conclusion of the battle, the enemy might be said to be completely beat. But such was the distance of the van D, and rear A, B, from the center and

and the crippled condition of several ships, particularly the Sandwich, that we could not pursue the enemy.

90. Though Sir George had the merit of great personal courage upon this occasion, yet, it must be admitted, that the attack, as put in execution, being the same, was, of course, attended with the like want of effect, which, unfortunately, has uniformly marked all our other sea-battles. For, notwithstanding all that has been said, he could not prevent the wary Frenchmen from sliding away from him almost unhurt, (in like manner as described in No. 23. 24. and Plate IV. fig. 1. and 2.) while he got his ships so greatly disabled that he could not *follow up*, or even detain a single ship of the enemy for one moment. It is in vain, therefore, to lay the blame of this miscarriage upon the supposed distance of the van and rear; for, if both had been completely closed with the center, from our hypothesis, as well as from the examples given, we have a right to conclude, that the van and rear of the French fleet might, as usual, have slid away with the same ease as the center had done, *vid. e.* as soon as they perceived themselves in any danger of being hurt.

91. Sir George has first told us, that he had given notice, by public signal, that his intention was to attack the enemy's rear with his whole force, *vid. a.*; and then he afterwards says, at eleven o'clock, A. M. I made the signal for every ship to bear down, and steer for her opposite in the enemy's line. *Vid. c.* Why did Sir George change his resolution?

92. Had he carried the intention of his first signal into execution *, it is more than probable that he might have taken or destroyed six or eight ships at least of the enemy's rear †; but, by carrying down his whole line, every ship steering upon his opposite, according to the intention of the last signal, from the experience of former engagements, he might have been assured of getting every ship so disabled by the raking fire of the enemy, as to be incapable of any future pursuit.

93. That the Sandwich, the Admiral's own ship, in particular was crippled, is not surprising; for, after having beat three other ships of the enemy, she had obliged the Couronne, the Triumphant, and the Fendant, to bear away and withdraw from battle. But, in the manoeuvre of these six ships of the enemy's quitting the line, as they did on this occasion, it is impossible not to perceive a resemblance to what has been before explained in the case of the alternate ships, &c. (No. 24. Plate IV. fig. 1. and 2.); or in the case of the Grafton, the Cornwall, and the Lion, in Mr BYRON's action, where, with similar gallantry, getting to leeward to cover their friends, they were constrained to sustain the fire of the enemy's whole line, as they passed them to leeward.

Having now given five examples where the British, in display of their innate desire of making the attack, having always attained

* It has been said, that the French Admiral, upon perceiving the approach of the British fleet, according to the first intention, broke out with an exclamation, That six or seven of his ships were gone!

† Vide Mode of Attack proposed.

ed the windward position, and where they have made this attack in an extended line, where each ship was steered down upon her opposite of the enemy, and where an idea has generally prevailed, of making the attack upon the enemy's headmost ships, in preference to an attack upon the sternmost; the consequence of which has been, that the ships making such attack could not be supported but with difficulty; and, likewise, where the French, on the other hand, as earnestly courting and attaining the leeward situation, have always disabled the British fleet; we now proceed to give other examples, where the French, by their anxiety, in keeping to windward, have clearly shown their dislike, as well of making the attack themselves, as of suffering the British fleet to approach them, while in this windward situation.

Y

SECTION

SECTION II.

Of Engagements, where the French, by keeping their fleets to windward, have clearly shown their dislike, as well of making the attack themselves, as of suffering the British fleet to approach them while in this windward situation.

1. That of SIR GEORGE BRIDGES-RODNEY, to windward of Martinico, May 15. 1780.
2. SIR GEORGE BRIDGES-RODNEY, near the same place, May 19. 1780.
3. SIR SAMUEL HOOD, off Fort Royal, Martinico, April 29. 1781.
4. ADMIRAL KEPPEL, off Ushant, July 27. 1778.

SIR GEORGE BRIDGES-RODNEY'S RENCONTRE with the FRENCH FLEET to windward of Martinico, May 15. 1780.

Extract of a Letter from ADMIRAL SIR GEORGE BRIDGES-RODNEY, May 31. 1780, dated Carlisle-bay.

94. ' Since my letter of the 26th of April from Fort-Royal Bay, sent express by the Pegasus, I must desire you will please
' to

to acquaint their Lordships, that, after greatly alarming the island of Martinico, whose inhabitants had been made to believe his Majesty's fleet had been defeated, but were soon convinced to the contrary, by its appearance before their port, where it continued till the condition of many of the ships under my command, and the lee currents, rendered it necessary for the fleet to anchor in Chocque Bay, St Lucie, in order to put the wounded and sick men on shore, and to water and refit the fleet; frigates having been detached both to windward and to leeward of every island, in order to gain intelligence of the motions of the enemy, and timely notice of their approach towards Martinico, the only place they could refit at in these seas. Having landed the wounded and sick men, watered and refitted the fleet, on the 6th of May, upon receiving intelligence of the enemy's approach to windward of Martinico, I put to sea with nineteen sail of the line, two fifty gun ships, and several frigates.

From the 6th to the 10th of May, the fleet continued turning to windward between Martinico and St Lucia, when we got sight of the French fleet, about three leagues to windward of us, Point Saline on Martinico then bearing N. N. E. five leagues, Captain AFFLECK, in the Triumph, joining me the same day.

The enemy's fleet consisted of twenty-three sail of the line, seven frigates, two sloops, a cutter, and a lugger. Nothing could induce them to risk a general action, though it was in their power

power daily : They made, at different times, motions which indicated a desire of engaging ; but their resolution failed them when they drew near ; and, as they sailed far better than his Majesty's fleet, they, with ease, could gain what distance they pleased to windward.

As they were sensible of their advantage in sailing, it emboldened them to run greater risks, and approach nearer to his Majesty's ships than they would otherwise have done ; and, for several days, about two in the afternoon, they bore down in a line of battle-abreast, and brought to the wind a little more than random shot distance.

As I watched every opportunity of gaining the wind, and forcing them to battle, the enemy, on my ordering the fleet to make a great deal of sail, on the 15th, upon a wind, had the vanity to think we were retiring, and with a press of sail approached us much nearer than usual. I suffered them to enjoy the deception, and their van-ship to approach abreast of my center, when, by a lucky change of wind, perceiving I could weather the enemy, I made the signal for the third in command, who then led the van, to tack with his squadron, and gain the wind of the enemy. The enemy's fleet instantly wore, and fled with a crowd of sail.

His Majesty's fleet, by this manoeuvre, had gained the wind, and would have forced the enemy to battle, had it not at once changed six points, when near the enemy, and enabled them

‘ them to recover that advantage. However, it did not enable
 ‘ them to weather his Majesty’s fleet so much ; but the van, led
 ‘ by that good and gallant officer, Captain BOWER, about seven
 ‘ in the evening, reached their center, and was followed by
 ‘ Rear-Admiral Rowley’s squadron, who then led the van, the
 ‘ center and rear of his Majesty’s fleet following in order.

‘ As the enemy were under a press of sail, none but the van
 ‘ of his Majesty’s fleet could come in for any part of the action,
 ‘ without wasting his Majesty’s powder and shot. The enemy
 ‘ wantonly expended a deal of their’s at such a distance as to have
 ‘ no effect.

‘ The Albion, Captain BOWER, and the Conqueror, Rear-Ad-
 ‘ miral ROWLEY, were the ships that suffered most in this ren-
 ‘ counter. But I am sure, from the slackness of their fire, in
 ‘ comparison to that of the van of his Majesty’s fleet, the ene-
 ‘ my’s rear must have suffered very considerably.

‘ The enemy kept an awful distance till the 19th instant,
 ‘ when I was in hopes that I should have weathered them, but
 ‘ had the mortification to be disappointed in these hopes ; how-
 ‘ ever, as they were convinced their rear could not escape action,
 ‘ they seemed to have taken a resolution of risking a general
 ‘ one ; and, when their van had weathered us, they bore away
 ‘ along our line to windward, and began a heavy cannonade,
 ‘ but at such a distance as to do little or no execution ; however,
 ‘ their rear could not escape being closely attacked by the ships

‘ of the van, thenled by Commodore HOTHAM; and, with pleasure I can say, that the fire of his Majesty’s ships was far superior to that of the enemy, who must have received great damage by the rencounter.

‘ The Albion and Conqueror suffered much in this last action, and several other ships received considerable damage; a list of which, as likewise of the killed and wounded, I have the honour to inclose.

‘ The pursuit of the enemy had led us forty leagues directly to windward of Martinico; and, as the enemy had stood to the northward with all the sail they could possibly press, and were out of sight the 21 instant, the condition of his Majesty’s ships being such as not to allow a longer pursuit, I sent the Conqueror, Cornwall, and Boyne, to St Lucia, and stood with the remainder of his Majesty’s ships towards Barbadoes, in order to put the sick and wounded on shore, and repair the squadron.

L. *Description of SIR GEORGE BRIDGES-RODNEY’S RENCOUNTER with the French fleet, to windward of Martinico, the May 15. 1780, taken from the above Letter of May 31. 1780.*

95. B. (Plate XI. fig. 1.). The British fleet extended in line of battle to leeward, and endeavouring to get to windward.

E

F. The French fleet, for several days, about the hour of two in the afternoon, bore down in a line of battle-abreast, (as at F), and brought to the wind a little more than random-shot distance, (as at G).

(Fig. 2.). The French, upon the 15th May, having imagined that the British were retiring, came down with a press of sail, and approached nearer than usual, (as at F, first position).

B. The British fleet in first position.

SIR GEORGE says, ' I suffered them to enjoy the deception, ' and their van ships to approach *a-breast* of my center at B, ' when, by a lucky change of wind, (vide I.), perceiving I could ' weather the enemy, I made the signal for the van to tack, as at ' C, and gain the wind of the enemy. The enemy's fleet instantly wore, as at GG. and fled with a crowd of sail on the ' contrary tack, as at H.'

B. (Fig. 3.). The British fleet having now gained the wind, (See I.) would have forced the enemy to battle, had not the wind at once changed six points to K, when near the enemy, which enabled them to recover the weather-gage, (as in fig. 4.).

E. (Fig. 4.). The French recovering the weather-gage, the wind having changed from I back to K.

G. The former line of course of the French fleet when the wind was at L.

B.

B. The British van having now lost the weather-gage, by the wind changing from I to K, and endeavouring to reach the center of the French line.

C. The line of the British course before the wind changed.

SIR GEORGE says, the van, 'led by Captain BOWER, about seven in the evening, reached the enemy's center, and was followed by Rear-Admiral ROWLEY's squadron, who then led the van, the center and rear of his Majesty's fleet following in order. As the enemy were under a press of sail, none but the van of the British fleet could come in for any part of the engagement, without wasting powder and shot; the enemy wantonly expending a deal of theirs at such a distance as to have no effect.'

II. *Description of SIR GEORGE BRIDGES-RODNEY'S RENCONTRE with the French fleet, to windward of Martinico, May 19. 1780, taken from his Letter of May 31. 1780.*

96. B. (Plate XII. Fig. 1.). The British fleet, on the 19th May, again disappointed in gaining the wind.

F. The van of the French fleet weathering that of the British.

'The * enemy kept an awful distance till the 19th inst. (says Sir GEORGE), when I was again in hopes that I should have weathered

* See Fig. 1. B. British. F. French.

'thered them ; but I had the mortification to be disappointed in
'these hopes ; however, as they were convinced their rear could
'not escape action, they seemed to have taken a resolution of risk-
'ing a general one ; and, when their van had weathered us, they
'bore away, along our line, to windward, (as in Fig. 2.)'

F. (Fig. 2.). The French van having weathered the British,
bore away, along the line, to windward, and began a heavy can-
nonade, but at such a distance as to do little or no execution ;
however, their rear G could not escape being closely attacked by
the ships of the British van B, led by Commodore HOTHAM. Sir
'GEORGE says, it is with pleasure I can say, that the fire from the
'British ships was far superior to that of the enemy, who must
'have received great damage by the rencounter.'

97. Without farther observation at present on the nature of the
manoeuvring which took place in either of these rencounters, it may
be proper to remark, that the French, in both, contrary to their u-
sual practice, have kept a windward situation. However, it will be
evident, from Sir GEORGE's letter, that as it was their earnest de-
sire to get back to Fort Royal without being farther hurt, so they
neglected no manoeuvre to accomplish their object ; and the feints
which they made of approaching the British fleet for four or five
days in succession, could be intended only as an attempt to throw
the Admiral off his guard : Therefore, as neither of these affairs
can be considered as any thing more than accidental rencounters,
our general observations will remain with the same force as be-
fore, and will confirm us in the belief, that the French will ne-

ver be induced, in prejudice of their object in view, either to make or sustain an attack, if it can possibly be avoided, whether that object shall be getting back to a port, an attack upon a particular place, the saving of their fleet in general, or the preserving of it entire to the conclusion of the war.

III. SIR SAMUEL HOOD'S ENGAGEMENT *with the French Fleet off Fort Royal, Martinico, 29th April 1781.*

Extract of a Letter from REAR-ADMIRAL SIR SAMUEL HOOD, May 4. 1781.

98. ' Saw nothing of the enemy or Amazon at day-light : A
' little before nine the Amazon joined me, the enemy then in
' fight, coming down between Point Salines and the Diamond
' Rock ; made the signal for a close line, and to prepare for ac-
' tion. At nine the enemy appeared, forming the line of battle.
' Twenty minutes past nine, the Prince William joined me from
' Gros Islet Bay ; and, as I sent for her but the night before,
' Captain DOUGLAS's exertion must have been great, and does
' him much credit, to be with me so soon, having the greatest
' part of his crew to collect in the night. Twenty-seven minutes
' past nine, hoisted our colours, as did the French Admiral and
' his fleet. At fifteen minutes past ten, made the Shrewsbury's
' signal to alter her course to windward, she being the leading
' ship, but soon perceived the wind had shifted, and that she was

' as

' as close to the wind as she could lie. At thirty-five minutes
' past ten, tacked the squadron altogether, the van of the enemy
' being almost a-breast of our center, and at eleven began to fire,
' which I took no notice of. At this time the ships in Fort
' Royal Bay slipped their cables, and got under sail. At twenty
' minutes past eleven, I tacked the squadron altogether, and re-
' peated the signal for a close order of battle. At twenty-five
' minutes past eleven, finding the enemy's shot to go over us,
' hoisted the signal for engaging, and, in passing our van and the
' enemy's rear, exchanged some broadsides. At forty minutes
' after eleven, the enemy tacked. At forty-five minutes after ele-
' ven, made the signal for the rear to close the center. At fifty-
' five minutes past eleven, finding it impossible to get up to the
' enemy's fleet, I invited it to come to me, by bringing the
' squadron to under their top-sails. At half-past twelve, the
' French Admiral, in the Bretagne, began to fire at the Barfleur,
' which was immediately returned, and the action became gene-
' ral, but at too great a distance ; and, I believe, never was more
' powder and shot thrown away in one day before ; but it was
' with Monsieur de GRASSE the option of distance lay ; it was not
' possible for me to go nearer. At one, I made the signal for the
' van to fill, the French having filled, and drawn a-head. At se-
' venteen minutes past one, made the Shrewsbury's signal, the
' leading ship, to make more sail, and set the top-gallant sails.
' At thirty-four minutes past one, repeated the signal for a close
' line of battle, and finding not one of ten of the enemy's shot
' reach us, I ceased firing ; the enemy did the same soon after ;
' but their van and our's being somewhat nearer, continued to
' engage ;

engage ; and, though the French Admiral had ten sail astern of him, and three others to windward, he did not make a nearer approach. The merchant ships, at this time, were hauling in close under the land, attended by two ships of two decks, supposed to be armed en flute, and two frigates. At eighteen minutes past three, the firing ceased between our van and that of the enemy ; made the Shrewsbury's signal to make more sail, in order to get to windward of the enemy. At forty-five minutes past four, sent Captain FINCH to the Shrewsbury to order Captain ROBERTSON to keep as near the wind, and carry all the sail he could, so as to preserve the line of battle, and to return back along the line, to acquaint every Captain of the same. At fifty-seven minutes past five, the packet going to Antigua, which had kept company with the squadron, came within hail, to acquaint me, by order of Rear-Admiral DRAKE, that the Ruffel was in great distress, having received several shot between wind and water ; that the water was over the platform of the magazine, and gaining upon the pumps ; and that three of their guns were dismounted. At eighteen minutes past six, made the Ruffel's signal to come within hail, which was answered ; the enemy's fleet, consisting of twenty-four sail of the line, at this time, about four miles to windward. At half past seven, Captain SUTHERLAND of the Ruffel came on board, whom I ordered, if he could possibly, by exertion, keep the ship above water, to proceed to St Eustatius, or any other port he could make, and acquaint Sir GEORGE RODNEY of all that passed. At forty-five minutes past nine, the Lizard came within hail, to inform me, by the desire of Captain SUTHERLAND, that he had bore away.

On

On Monday, April 30th, at day-light, found the van and center of the squadron separated at some distance from the Barfleur and rear, owing to fluttering winds and calms in the night, which would not allow us to keep the Barfleur's head the right way, and she went round and round two or three times, while the other ships had light airs; and, finding the enemy's advanced ships steering for our van, made all possible sail towards them, and threw out the signal for a close line of battle, the enemy's line being a good deal extended and scattered. At seven, the squadron under my command being pretty well formed, the enemy's advanced ships hauled off. At fifty-six minutes past seven, made the signal for the rear to close the center, as the enemy seemed to show a disposition to attack it. At thirty-five minutes past eight, having very light airs of wind, the squadron was thrown nearly into a line a-breast; made the signal for continuing in that form, lest, by endeavouring to regain the line a-head, it might become extended. At eleven, made the signal for a line a-head, at two cables length afunder, the wind backing to the eastward, favoured by forming in that order, the better to receive the enemy, then about three miles to windward. At fourteen minutes past eleven, made the signal for the rear to close the center. At twelve, falling little wind again, and all the ships being thrown into a line a-breast, made a signal for a line a-breast, to keep the squadron as close together as possible. At twenty-five minutes past twelve, the wind blowing steady at S. E. made the signal for a general chase to windward, with a design of weathering the enemy, which I should certainly have succeeded in, had the

B b

breeze

‘ breeze continued ; but the wind dying away at four, I found it
‘ impracticable to weather the enemy, and, therefore, made the
‘ signal for a line a-head ; and, having been informed that the In-
‘ trepid made so much water they could scarce keep her free, and
‘ that the Centaur was in the same state, owing to the number of
‘ shot between wind and water, and that her lower masts were
‘ very badly wounded, I judged it improper to dare the enemy
‘ to battle any longer ; and, therefore, thought it my indispen-
‘ sible duty to bear up, and made the signal for it at eight o’clock.
‘ At ten, brought to for the squadron to close ; at forty minutes
‘ past ten made sail. At five A. M. the 1st instant, saw the ene-
‘ my’s fleet a-stern, about eight or nine miles distant. At twen-
‘ ty-six minutes past five, brought to for the Torbay and Pacca-
‘ hunta to come up, which were then within reach of the ene-
‘ my’s guns, and the former received a good deal of damage in
‘ her masts and rigging. At forty-five minutes past seven, the
‘ enemy ceased firing upon the Torbay ; sent the Amazon to tow
‘ the Paccahunta up. At eight, made the signal for a close line,
‘ bearing north and south of each other. At twenty minutes
‘ past twelve, made the signal, and brought to upon the larboard
‘ tack, and made the signal for the state and condition of the
‘ squadron, the enemy bearing east, standing to the northward.
‘ Thirty-three minutes past three, made the signal for a close line
‘ north and south. At four, the enemy tacked to the south-
‘ ward, and were standing that way at sun-set. In the evening,
‘ though it was almost calm, the main top-mast of the Intrepid
‘ fell to pieces over the side. At seven, made sail to the north-
‘ ward, it being the opinion of the officers of the squadron ac-
‘ quainted

'quainted with this country, that it was the only way of getting
'to windward, as the currents run very strong to leeward, to the
'southward of St Vincents.'

The conduct of the French, in this affair with SIR SAMUEL HOOD, is much the same with the two last of SIR GEORGE RODNEY's. It is the third time, where, contrary to their established practice, *they have kept the wind*. But, aware of the danger of this position, they approached so near the British only, as to be able to amuse them with a distant cannonade, while their merchant ships and transports might, with sufficient security, get into port.

Besides the above object, and the usual unremitting attention to the safety of their ships, they had to secure an easy access, by keeping to windward of their port; from which the armaments, for carrying into execution the great schemes they had then in contemplation, were to be fitted out. Of these the first soon after unfortunately took place in the Chesepeake.

From this battle, we may judge of the propriety of cannonading, even where there may be the smallest chance of reaching an enemy. For, notwithstanding the great distance of the two fleets, and though the French were to windward; yet many of their shot took place in the hulls of our ships, so far below the water-line, that three of them could, with difficulty, be kept afloat.

IV. ADMIRAL KEPPEL'S BATTLE *off Ushant*, July 27. 1778*.

99. B. (Plate XIII. Fig. 1.). The British fleet, at six o'clock in the morning, standing upon the larboard tack, and lying up about W. by N. ; that is, with their heads northwards, and ranging between the fleet of the enemy and their port of Brest.

F. The French fleet to windward, and nearly west, having kept that situation for four days before, as mentioned in Mr Keppel's letter ; they had their heads also to the north.

A. At ten o'clock, the whole British fleet tacked together, and stood for the enemy, after having run through the dotted lines, their supposed course, and now upon the starboard tack, with their heads southward.

C. The British fleet advancing in as regular a line as the pursuit would admit; and the van having neared the enemy, a firing began between the headmost ships of both fleets about eleven o'clock.

While the British fleet was going through these movements, a squall of wind, attended with rain, arose, which prevented either fleet from seeing each other's motions ; during which time, that is, from six o'clock, till half an hour after ten, the French had first stretched away north, on the larboard tack, to G, where they tacked,

* British, 20 ships, 6 frigates ; French, 28 ships.

tacked, then returned on a starboard tack to the south, as far as H; here they attempted a second tack; but some ships missing stays, from the effect of the squall, they wore altogether, and were got again with their heads to the north, when the weather cleared up, and discovered the British fleet hard upon them, but on contrary tacks: The wind veering a little about to the south in this critical moment, favoured the fleet of the French, by enabling them to lie better up, while, of course, the British fell off.

100. B. (Fig. 2.). The van of the British, after having got as near as they chose, each ship, as soon as it came within gun-shot, bore away, and run along the line of the enemy, firing at each ship in passing; the whole fleet following the same example.

101. F. Shows the course of the French, wishing to avoid the battle, and taking the advantage of the wind, now more southerly, by which means the rear of the British was able to fetch the center of their fleet only, while, at the same time, the French van was now far to windward, and preparing to wear and run to leeward of the British fleet.

102. B. (Fig. 3.). The British Admiral, in the Victory, together with other ships of his division, after having passed the rear of the French, in the act of wearing, to return to the support of their rear, or to give chase to the enemy.

103. A. The Formidable, SIR HUGH PALLISER'S ship, after having fetched, and given and received a broadside with the French Admiral, and other ships, as she passed along the line.

C c

C.

C. The van of the British somewhat farther to windward.

104. F. The French fleet, after having wore, and running down before the wind, which, at that time, would give them the appearance of being in disorder, when seen from SIR HUGH PALLISER'S ship, the Formidable.

105. G. The French forming in a new line of battle to leeward, upon the starboard tack, with their heads to the southward.

106. B. (Fig. 4.). Admiral KEPPEL, now to windward of the French fleet, between four and six o'clock in the afternoon, on the starboard tack, with the ships head to the southward, and in hopes that the enemy would lie to, and try their fortune in battle with him next morning.

A. The supposed situation of the Formidable.

107. F. The French fleet in order of battle, to leeward, also on the starboard tack, lying to, to receive the British Admiral, should he think fit to make an attack.

108. GGG. Three swift sailing frigates left with lights in their poops to amuse the British Admiral, while the rest of the fleet should slip into port before morning.

109. MR KEPPEL, discovering the French fleet to windward, struggled hard for four or five days to get up with them; at last, the French, willing to give up the contest, passed to leeward, and formed their line of battle in their favourite position, as in the fore-mentioned case of MR ARBUTHNOT off the Chesepeak; but, in accomplishing this movement, it must be evident, from former examples, that they could have no intention or inclination.

tion to come within cannon-shot of the British fleet, when passing on contrary tacks, as they were forced to do, by the effect of a dark squall of wind and rain, and which also prevented them from seeing where they were till close upon the British fleet.

MR KEPPEL, in his letter to the Admiralty, having given his reasons why he did not attack the French fleet in the afternoon, it will be improper here to make any farther remark upon it.

OTHER OBSERVATIONS*.

110. Let us suppose two adverse fleets, A and F, (See Plate XIV. Fig. 1.) with hostile intention, contending to get to windward the

* With respect to the above observations, it seems necessary here to mention, that they made part of a former description of this rencounter of the 27th of July 1778, written soon after, and then put into the hands of a few friends: That the author being in London in January 1780, many discussions were held, at the desire, and in presence of the same friends, as well for improving upon, as for the communicating of, these and other ideas on naval tactics, and particularly on one occasion, by appointment with an officer of most distinguished merit: That they were afterwards intended to be inserted in the first edition of this Essay, printed January 1. 1782, as being applicable to the two similar rencounters of Lord Rodney, of the 15th and 19th of May 1780, as well as to this of the 27th of July, where the adverse fleets had passed each other on contrary tacks. But it was afterwards thought proper then to omit them, as it was conceived it might be of prejudice to the other parts of the subject to advance any thing doubtful, no example of cutting an enemy's line, in an attack from the leeward, before that time, having been given.

- the one of the other, and, by dint of failing, or by change of wind, that the leading ships of the enemy F, shall have gained
- 111. the wind of the fleet A; it seems evident, if the van, or any part of the leeward fleet A, was to continue the line of direction of
 - 112. their first course AB, and were not all, ship after ship, to bear
 - 113. away, as per course CC, (Fig. 2.) that, with great advantage, the enemy's line of battle might be cut in twain, as at G, (Fig. 3.) and have thereby their rear H, separated from their van F,
 - 114. (Fig. 3.); or otherwise, by such attempt, the course of all the ships a-stern of this attack being thereby stopped or retarded, the enemy F, (Fig. 4.) to support these ships, will be compelled to hazard an engagement, that shall be close indeed, or he must altogether abandon the ships so stopped in his rear at G, (Fig. 4.).

- Perhaps it will be said, that the risk or danger attending an attack of this kind, might be greater than any advantage that can
- 115. be proposed:—To which it is answered, The very first time ever we shall have the spirit to make the experiment, the success will be sufficient to justify the attempt, by convincing us, that the risk or damage to shipping in making the attempt, will be found to be of less moment than in any one other mode of attack whatever.

116. But since the attempt, of cutting the enemy's line, had not been thought an adviseable measure upon this occasion, should not some other efficient plan of attack have been concerted, by which, upon a supposition, if the two fleets should be brought to pass each other on contrary tacks, that the leading ships of the British squadron, after having ranged past the line of the enemy, might have

have been appointed to tack, and, by doubling back, as per course B, (Plate XV. Fig. 1.) have brought the ships in the rear of F between cross fires?

117. A movement of this kind would likewise have brought on a closer and more general engagement, or the enemy, of consequence, must have abandoned their rear, as in the former case. Not having been able to foresee, provide for, or advise upon either the one or the other of the cases, during the four days the British squadron was in pursuit of the enemy, is very extraordinary; because, by being to leeward, the enemy desirous of going off, and the wind not changing, it is, without doubt, demonstrable, that the rencounter of adverse fleets in such position, and under such circumstances, will never be on the same tack, but, of necessity, will always be on contrary tacks.

118. The two fleets, upon this occasion, passed each other in opposite directions, at the rate of five miles per hour. That of the French consisted of 26 ships; and, as the space occupied by each ship, including the intervals between, may be about 294 yards, (say 300 yards, No. 25.) their whole line (founded upon the same proportion) may be supposed to be about five miles in length. From which it will be evident, that the *whole* extent of the respective line of each fleet must have passed the complete line of the other in one hour; and each ship in the British line must therefore have ranged past the length of the whole French line (admitting nothing extraordinary to cause a stoppage) in the one half of that time.

119. Again, let us make a supposition, that two, three, or more ships, in line of battle, are passing each other in opposite tacks, at the rate of five miles per hour; then will the velocity of the transit be equal to ten miles per hour. Or, which is the same thing, let us, for the sake of demonstration, suppose the one fleet at rest, that is, without any motion a-head whatever; but let the motion of the other a-head, and in an opposite direction, be equal to ten miles per hour, then each ship of the squadron in motion will pass through a space of 880 feet in one minute of time.

For the number of feet in one mile, being	-	5280
multiplied by 10, gives the velocity of the tran-		10
fit ten miles, or 52,800 feet, performed in	}	—
one hour; which sum being divided by 60,		60)52800(880
will give 880 feet, the velocity of one minute.		

And, as the length of each ship will not much exceed 200 feet, then it is evident, that the duration of time in which one ship will continue in direct opposition to any one other ship, of equal length, in the enemy's line, so as mutually to annoy each other, cannot exceed one quarter of a minute of time.

120. Again, suppose any number of ships, six, seven, or eight, running upon a starboard tack, at the rate of five miles per hour, and an equal number of the enemy, passing in opposite direction, at the rate of five miles per hour likewise, (as in Plate XV. fig. 2.); then, according to what has been said, each ship of the squadron

squadron B, will pass each ship of the enemy F, with the interval between ships included, in one minute; that is, (the motion of both ships comprehended), will amount to 880 feet in one minute, say 300 yards, that being the usual allowance of space for each ship as extended in line of battle.

121. But, on such a supposition, the ship F (Plate XV. fig. 2.) will be confined, in point of time, so far, that she will be able to give her fire to the ship B, while she shall be in direct opposition to her at the point A, because she must be in preparation to give a second broadside, when the ship D shall have come in direct opposition also; but, by the supposition, the transit of each ship is confined to one minute of time only. Therefore, though it were possible that the guns of the whole of the ship's broadside could be loaded, prepared, and repeated, in the space of one minute, still it would be impracticable for the ship F to give more than one broadside to the ship B, even by following her in an angular direction, as that represented by G firing upon C, and afterwards to be in sufficient time prepared to give a proper reception to the ship D, now fast approaching.

122. Therefore, if the two fleets did pass one another, each at the rate of five miles per hour, and if it were possible that the loading and firing of a ship could be repeated once every minute of time, each ship still could be exposed to the fire of her antagonist during the space of one quarter of minute only, that is, while the two ships in question were in direct opposition, as at A from F; and, as the fleet of the enemy, on this occasion, consisted of 26 ships, each British ship, in ranging along the whole of their line,

line, could be exposed to a cannonade of six minutes and an half duration only : And, in place of five miles, if the two fleets had passed each other with a velocity equal to $2\frac{1}{2}$ miles per hour, (a rate of motion required to make a ship answer the helm, but absolutely necessary to keep her under proper management in line of battle, when working to windward, as on this occasion), then, and in that case, each ship would be exposed to a cannonade of not more than thirteen minutes duration.

123. Again, if it shall be found impracticable to load and discharge a complete broadside in the space of one minute, and that this operation shall require six, eight, or ten minutes, one time with another, when it comes to be repeated, in an engagement of any duration, How much then will the effect be different ! It must be observed, however, that these calculations are founded on the average of motion and time, taken upon the whole number of the ships comprehended in the French line of battle, and that particular British ships, from accidents, might have made their transit, by ranging past the fire of the enemy, some with more motion, and some with less.

124. Let any one imagine a rencounter of horsemen, where the parties, on coming to the ground appointed, had pushed their horses at full speed, exchanging a few pistol shot as they passed one another in opposite directions, at a distance of forty or fifty yards, and then some idea may be formed of the effect of rencounters, where adverse fleets are brought to pass each other on contrary tacks, having nothing further in view than exchanging the few cannon shot which can take place on all such occasions.

125. From all which, it must be evident, that the most artful management of sails, the closest approximation, or the most spirited cannonade, will avail nothing under such circumstances, and that it is vain to hope, that ever any thing material can be effected against an enemy's fleet keeping to windward, passing on contrary tacks, and desirous to go off, unless his line of battle *can be cut in twain*, or some such other stop can be devised, as has already been described.

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SECTION

SECTION III.

126. *The ENGAGEMENT of the British Fleet under the command of Mr MATHEWS*, with the Combined Fleets of France and Spain, in the Mediterranean, off Toulon, February 11. 1744 †.*

127. B. (Plate XVI. fig. 1.). Admiral MATHEWS in the *Nature*, commanding the center of the British fleet, at 10 o'clock, when the signal for battle was given, and three hours before the engagement began.

A. The rear under Mr LESTOCK, at that time several miles a-stern.

C. The van, under Mr ROWLEY, some miles a-head, and to windward, said by Mr LESTOCK to be in disorder.

F. The van and center of the enemy closed, and composed of some Spanish, but the greatest part of French ships, then going at the rate of three or four miles an hour.

G. The

* British, 31 ships of the line, 2 of 50 guns, and 9 frigates. French and Spaniards, 28 ships, and 4 frigates.

† To this battle, distinguished as it is by peculiar circumstances, and the better to express a desire of doing justice to the Admiral who commanded, it has been thought proper to assign a place by itself. The account of it is taken from plans, with descriptions, presented to the House of Commons by Vice-Admiral LESTOCK, who commanded the rear of the British fleet, and who was the accuser before the Court-martial, by the sentence of which Mr MATHEWS was condemned to be broke.

G. The Spanish Admiral, JUAN JOSEPHO NAVARRO, in the Royal Philip, with three ships of the rear division, a great way separated from the center.

H. Five other Spanish ships, also belonging to the rear division, but far a-stern of the Admiral.

A. (Plate XVI. fig. 2.). The rear division of the British, under Mr LESTOCK, at one o'clock, still very far a-stern.

128. B. Mr MATHEWS, in the Namure, at one o'clock, three hours after the signal for battle, having broke the line, bore down, accompanied only by the Norfolk and Marlborough, his two seconds a-head and a-stern, and began the engagement with the Royal Philip and his seconds.

129. C. The van, under Mr ROWLEY, not yet engaged, but watching carefully to prevent the van of the enemy from getting the wind.

F. The center and van of the enemy still far a-head of the rear.

G. The Royal Philip engaged with the British Admiral.

H. The five Spanish ships still far separated from the Admiral.

130. I. The Poder, a Spanish ship, cannonaded, but at a great distance, by five ships in the British line.

131. K. The Constant, the Spanish Admiral's second a-head, beat out of the line by the Norfolk, the Admiral's other second a-stern firing at her to make her return.

A. (Plate XVI. fig. 3.). Mr LESTOCK still a-stern.

132. B.

132. B. Mr MATHEWS, assisted by his seconds, silences the fire from the Royal Philip, and sends the fire-ship down the wind to set him on fire; which fire-ship, as she blew up somewhere in the intermediate space between the two squadrons, did no hurt to either. The Lieutenant, Gunner, and four men, perished in the flames; the remainder of the crew escaped in their boats.

C. The van of the British cannonading the French, but at a great distance.

D. Four ships, which did not go down to support the Admiral and his seconds.

133. E. The Berwick, commanded by the gallant Mr HAWKE, tho' in the van division, broke the line, bore down *within half musket shot*, (while other ships kept to windward), gave battle to the Poder, and, at the first broadside, killed twenty-seven of her men, and dismounted seven of her lower deck guns*.

F. The French, still on the larboard tack, and far a-head.

134. G. The royal Philip preserved from the flames, but a perfect wreck. Such a consternation took place on board, upon the approach of the fire-ship, that many of her crew leaped overboard and were drowned.

135. H. The sternmost ships of the enemy firing at the fire-ship as she was coming down, but did not seem to reach her.

A.

* In a little time afterwards, the Poder lowering her colours, was boarded, at one and the same time, by boats sent from several ships of the British fleet; but the commander, like a true Spaniard, declaring that he had struck to the Berwick only, delivered up his sword to the officer from that ship.

A. (Plate XVI. fig. 4.). Mr LESTOCK still a-stern; but it is said had very little wind.

B. Mr MATHEWS, in the Namure, got to windward, Mr LESTOCK having said, that, soon after the engagement began, he (MATHEWS) quitted his station, and left the Marlborough M. in the heat of action.

C. The van of the British, now upon a contrary tack, and returning to join the center.

E. The Berwick quitting the Poder.

F. The center and van of the enemy, now upon the starboard tack, and doubling back to support their rear, conceived to be in great danger.

G. The Royal Philip; H. the five ships in his rear.

136. I. The Poder, which was retaken by the French, with a Lieutenant of the Berwick, and twenty-three men on board.

N. B. At this period, (says Mr LESTOCK,) Admiral MATHEWS thought proper to haul down both signals, that for engaging, and also that for line of battle.

A. (Plate XVI. fig. 5.). Mr LESTOCK, with his division, (as he has said himself), falling into the line of battle a-head, according to the signal then abroad.

137. B. Mr MATHEWS, at half an hour after five, again made the signal of line a battle a-head, and put about; but, there being little wind, some ships tacked, and others wore, as did the Admiral himself, and formed the line a battle a-head on the other tack, viz. the starboard, leaving the Poder, as Mr LESTOCK says,

E f

to

to be retaken by the French squadron, with the Berwick's Lieutenant and twenty-three of her men. So precipitate was his flight from the French (says he) that there was not time to save his men.

N. B. Admitting all this speed and hurry, it might have been said, that Mr MATHEWS rejoined his rear,—not that his rear had advanced much to support and rejoin him, as Mr LESTOCK would have it believed, when pointing out his own situation.

C. Mr ROWLEY, with the van, standing after the center of the fleet.

D. *The four ships*, the Dorsetshire, Essex, Rupert, and Royal Oak, firing at the five ships in the Spanish rear, now within gunshot, having fallen to leeward in wearing, when the Admiral did.

138. F. The French squadron passing the British van, within pistol-shot, (as has been said), but without firing a shot, being intent only on disengaging the Spanish squadron in the rear, which ought to have been taken or destroyed long before this time, even without Mr LESTOCK's assistance, had every one done their duty.

G. The Spanish Admiral.

H. The five Spanish ships, firing at the four ships, now on contrary tacks, and thought to be within reach.

I. The Poder retaken by the French.

K. The Marlborough in tow, with frigates attending on her, on her way to Mahon.

Night

Night coming on, the combined fleets being to leeward, carried off their disabled ships, by having them in tow, and taking with them the Lieutenant of the Berwick, with twenty-three of her men, who had been put on board the Poder, and quitted her, where she was afterwards burned by the Essex.

Without entering into the merits of the dispute between Messrs MATHEWS and LESTOCK, what might have been the most proper time for giving the signal for bearing down to close engagement, we have no doubt that the following observations will now be found just:

139. That, if Mr MATHEWS and his seconds had been properly supported, the greatest part of the Spanish rear might have been cut off: Therefore, that the attack made by him upon the rear of the enemy, as it was so far separated from the center and van, was both bold and well designed at the time.

140. That, as Mr ROWLEY's position with the van did overawe the van of the enemy, it was a proper one.

141. That it is evident that the French, on this occasion, as well as on all the others that have followed since that time, had the safety and preservation of their ships only as the principal thing in view.

142. Again, from this battle, we may be able to form some judgment of the effect of cannon-shot, with respect to distance.

The

The Royal Philip, the Spanish Admiral *, in his combat with the British Admiral and his seconds, had all his rigging destroyed, not a top-mast left standing on end, his main-yard upon the deck, and two or three port-holes beat into one. He had 238 men killed, and 262 wounded.

The Constant, the Spanish Admiral's second a-head, during the short time she staid, had 25 men killed, and 43 wounded.

On the other hand, the Marlborough, opposed to the Spanish Admiral and his seconds, had her main and mizen-masts beat over-board, and, though otherwise a wreck, had her ensign nailed to the stump of the mizen-mast which remained. She had 43 men killed, and 128 wounded;—amongst the first was Captain CORNWALL, her brave commander, and Captain GODFREY of the marines.

143. Great and dreadful as these effects were, yet the distance between the combatants must have been very considerable, that could have admitted of a fire-ship being put in motion, set on fire, time for her men to take to their boats, to quit her, and to get off, and, lastly, to blow up without injury to so many ships surrounding her. After so many circumstances being allowed to take place, can the distance be thought to be less than 400 or 500 yards at least?

144. Again,

			BRITISH FORCE.		
	Guns.	Men.		Guns.	Men.
Royal Philip	114	1350	Norfolk	80	600
Isabella	80	900	Namure	90	780
Constant	70	750	Marlborough	90	750
	264	3000		260	2130

144. Again, the Poder of 64 guns, another Spanish ship, after having been exposed a long time to a cannonade from five ships in the British line, without having suffered material damage (vid. No. 14.); yet the first broadside from the Berwick (which had broke the foresaid line, and had approached within half musket-shot *) killed twenty-seven of her men, dismounted seven of her lower deck guns; and, when she struck to the Berwick, had not a mast standing.

145. A General, at the head of his troops, and leading them on to action, has long been considered as a sufficient signal; and Mr MATHEWS's ship, when going down to battle, as Admiral, in the center, should have been the example for his whole fleet, whether the signal was given at 10 or 12 o'clock. The brave commanders of the Norfolk and Marlborough, his seconds, were of this mind; as has also been Sir GEORGE RODNEY upon a later occasion: Therefore, every ship which kept her wind, and did not follow the Admiral, Mr MATHEWS, down to fight the enemy, ought only to be considered as breakers of the line. *And hence that Sentence of the Court Martial, which broke Mr MATHEWS, ought virtually to be considered as the source of all the many naval miscarriages since.*

G g

S E C-

* The distance between these two ships at this time may be supposed to be about 400 or 500 yards, not less than that between the two opponent flag ships. The boats from several ships of the British fleet getting on board the Poder when she struck, at one and the same time, is in some degree a confirmation of this opinion.

SECTION IV.

146. ADMIRAL PARKER'S *account of the ENGAGEMENT with the Dutch on the Doggar Bank, 5th August 1781* *.

'Yesterday morning we fell in with the Dutch Squadron, with
'a large convoy, on the Doggar Bank. I was happy to find I
'had the wind of them, as the great numbers of their large fri-
'gates might otherwise have endangered my convoy. Having
'separated the men of war from the merchant ships, and made a
'signal to the last to keep their wind, I bore away, with a ge-
'neral signal to chace. The enemy formed their line, consisting
'of eight two decked ships, on the starboard tack. Ours, in-
'cluding the Dolphin of forty-four guns, consisted of seven.
'Not a gun was fired on either side until within the distance of
'half musket-shot. The Fortitude being then a-breast of the
'Dutch Admiral, the action began, and continued with an un-
'ceasing fire for three hours and forty minutes; by this time our
'ships were unmanageable. I made an effort to form the line,
'in order to renew the action; but found it impracticable. The
'Bienfaisant had lost her main-top mast, and the Buffalo her
'fore-yard; the rest of the ships were not less shattered in their
'masts, rigging, and sails; the enemy appeared to be in as bad a
'condition. Both squadrons *lay-to* a considerable time near each
'other,

* British, seven ships, four frigates.

Dutch, eight ships of two decks.

'other, when the Dutch, with their convoy, bore away for the
'Texel. We were not in a condition to follow them.'

147. This affair, though in itself greatly different from the many we have had with another enemy, yet, with respect to the subject before us, viz. the mode of attack, is perfectly similar. The gallantry of the Dutch refusing to fire a gun until the British Admiral should have made choice of his distance, could have no prior influence upon the determination of the British Admiral in his mode of attack; nor will it make any other difference in the manner the French may afterwards receive us, than to redouble their anxiety not to lose the least possible chance of annoying our ships, let the distance be what it will, whenever we shall be disposed to attack them.

148. Though this battle has a greater resemblance to the old Dutch than the present French manner of fighting, we cannot help recalling to remembrance those glorious and obstinate conflicts of former times, which did so much honour to both nations.

S E C T I O N V.

GENERAL OBSERVATIONS.

149. From these examples, it appears, that the attack, in every one of them, without variation, has been made by a long extended.

tended line, generally from the windward quarter, by steering or directing every individual ship of that line upon her opposite of the enemy, but more particularly the ships in the van.

150. That the consequences of this mode of attack have proved fatal in every attempt; that is, our ships have been so disabled, and so ill supported, that the enemy have been permitted not only to make sail and leave us, but, to complete the disgrace, have, in passing, been permitted to pour in the fire of their whole line upon our van, without a possibility of retaliation on our part*. The cause, then, of these miscarriages, can never be said to have proceeded from a fault in our shipping, and far less from a want of spirit in our seamen.

151. And, though we have not yet been so happy as to see their innate ^{naval spirit} ~~courage~~ exerted with advantage in the greater fights, we may yet have the consolation of being assured, even from these examples, that it does exist, if we take into consideration the habitual desire they constantly have shewn of making the attack, in spite of every discouraging affront: On the other hand, that the enemy may justly be said to have it not in that degree, if we consider the habitual desire they have constantly shown, as well in avoiding, as in refusing to make the attack.

152. From the mode of this attack, followed throughout most of the examples we have given, it would seem that an idea had been formed, *by stopping the van, of taking, destroying,*

* Section 1. No. 38.

ing, or disabling the whole of the enemy's line *. The event has proved this attempt impracticable. But will not this idea be also found contradictory to the general complaint of the deficiency of our ships in point of sailing? For, if this deficiency is a truth, would it not have been more natural, upon a chace of the enemy, to make sure of the slowest sailing vessels to be found in the rear, than to attempt to get up with the swiftest ships to be found in the van?

153. Another reflection will naturally occur: That, by the great destruction of rigging, the consequence of this mode of attack, the nation has been thrown into a most enormous expence of repair, while our enemy, by their cautious conduct, preserving their ships often unhurt, has been enabled not only to protract the war, but, if persisted in, will, without doubt, ensure the possession, perhaps, of a superior navy, complete and entire to the conclusion.

154. Having now demonstrated, from evidence which should be satisfactory, that the mode or instructions hitherto followed for arranging great fleets in line, so as to be able to force an enemy to give battle on equal terms, must be some where wrong, it will be required to show whether any other mode may be devised, or put in practice, that will have a better effect.

But, as nothing can be devised of worse consequence than what has so long and repeatedly been put in practice, an offer of

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* Nos. 32. and 58.

any thing new, it is to be hoped, may be examined with that attention which the importance of the subject demands.

By the phrase *new*, is not here meant, that what follows was never either spoke of or thought of before; but it is surely so far new, as never to have been put in demonstration by writing, nor is there any examples of its having been put in practice in actual combat.

155. But, if the method or practice of bringing single ships into action has been found, by long experience, to succeed so well, Why should not this practice, in some degree, be applied to numerous fleets? And, if we have proved that the intrepidity and perseverance of our seamen must be equal, if not superior, to the enemy, Ought we not at once to endeavour to bring this superiority to avail us where it best can, that is, in getting as close along-side of the enemy as possible? and that this may be done not only upon equal, but upon far superior terms, will be endeavoured to be proved by demonstration in the following mode of attack.

MODE

MODE OF ATTACK PROPOSED.

SECTION I.

The Attack from the Windward upon the Rear of the Enemy.

156. Suppose a fleet of ten, twenty, or more ships, extended in line of battle at F, (Plate XVII. fig. 1.). endeavouring to avoid a close engagement, but, at the same time, keeping under an easy sail, with the intention of receiving the usual attack from another fleet of equal number, three or four miles to windward, at B, sailing in any form; but let it be in three lines or divisions: It is required by what method shall B make the attack on F with advantage?

The improbability, or rather impossibility, of attacking and carrying the enemy's whole line of ships having already been demonstrated, (Vid. Nos. 32. 38.), the next consideration will be, How many ships may be attacked and carried with advantage? Let it be supposed that the three sternmost ships only, and not exceeding the fourth, are possible to be *carried*; let a sufficient strength, A, be sent down to force an attack upon these three ships, disposed
and

and supported according to the judgment of the Admiral, while, in the mean time, he should keep to windward with the rest of his fleet, formed into such divisions as might best enable him to attend to the motions of the enemy, and the effect of his attack; being himself so far disengaged from action, as to be able to make his observations, and give his orders, with some degree of tranquillity.

157. By placing the fleet B in the division, as in Plate XVII. fig. 2. means only that the attacking fleet shall be so disposed, and so connected together, as to be able to give the support and attention that may be required to any ship, or any part of the fleet, and in preference to a long extended line of six or seven miles in length, (No. 25.), where it must be impracticable to give the necessary support to such ships as may be disabled *.

SECTION II.

Attack upon the enemy's three sternmost ships more particularly.

158. Though the number of ships contained in each squadron may, by many, be thought a proper rule for determining the number of the ships to be attacked, yet, as there will be next to a certainty of carrying three, we would choose to keep by

* Vid. Section 4. No. 15.

by that number. Wherefore, although it may afterwards be found proper to give other opinions, and to enter into a fuller discussion of the choice, and the best arrangement of the particular ships destined for the approaching, and making this attack, it is necessary here to carry on the following demonstration upon the supposition of three ships being the number proper to be attempted.

159. It will be evident, however, that the headmost, or swiftest sailing ships of B may get close along-side of the sternmost of the enemy F, even though the ships of F should, in general, be faster sailers than those of B; *an opinion, which, for argument's sake alone, shall be for once admitted.* But it will not, therefore, be admitted, that every individual ship of a great fleet, or even of the number 15, as in the figure, will be able to outfail every individual ship of a numerous British fleet, or even of the number 15, as in the plan. Therefore, there will be a necessity that the swiftest ships of B must come up along-side of the sternmost and dullest sailing ships of the enemy F; while, at the same time, F (by an attempt of outfailing B) must be thrown into the disorder of a downright flight: Therefore, of course, it must be admitted, that, if the enemy F continues going off in line of battle, and endeavouring to avoid a close engagement, it will be impossible to prevent the fleet making the attack from getting into the position of figure 2.

160. By this position, then, it is evident, that these three ships at I will be in the power of the Admiral of B. For, by keeping

so many ships to windward, he will be enabled to send down fresh ships from time to time, either for the support, or to supply the station of any of those that may be disabled in making the attack, while it may be imagined, that the three ships in question, by being disabled, or being deprived of the wind, now taken out of their sails by the ships to windward, will be prevented from following their friends.

161. From hence the enemy a-head must either abandon his three sternmost ships, or he must double back to support them, which must be done either by tacking or by wearing. But let it be first examined what is naturally to be done by tacking, and for the greater satisfaction, let every possible case that can happen be examined separately.

S E C T I O N III.

The enemy's attempt to support his three sternmost ships by tacking his fleet.

162. (Plate XVII. fig. 3.). First let us suppose, that the enemy at F has continued to protract his course in line of battle, upon the same tack, and that the headmost ship H, with the three next a-stern of her, have tacked to windward, and that the whole remaining ships intend to tack the same way, but in succession, as in fig. 3.

is

is it not evident, that F has then left his three sternmost ships at I in the power of the ships at A, that he must also leave exposed his fourth and fifth ship G to another attack from another division of the British at C, which will also be on equal terms as with his three sternmost at I; and, lastly, if he prosecutes his intention of supporting his three ships, he will be obliged to begin a [disadvantageous attack upon the Admiral, with the main body of the fleet lying ready to receive him.

163. (Plate XVII. fig. 4.). The consequence of all which will be, that he will not only lose his three sternmost ships, but, in all probability, the fourth and fifth also, as at G in fig. 4. and will be forced to begin an attack, and close, and mix ship with ship, on equal terms; a situation which he, at all times, with the greatest anxiety, hath avoided, and we, with equal anxiety, have always courted.

164. (Plate XVII. fig. 5.). Again, suppose that his three sternmost ships have been attacked, and that he shall order his fleet to tack all at one time, as in fig. 5. The consequences will then be, that this movement having required some time, and some length of course, will have produced a considerable distance between his main body and his three ships; or, in other words, that they have been deserted; for it will not be in their power to tack with the rest of their friends.

165. He must also, in bringing his ships heads round, expose the ships nearest his enemy to be raked by a dreadful cannonade.

166. (Plate XVIII. fig. 6.). He must also run the risk of having his fleet thrown into a general disorder, by many of his ships missing stays, wearing, and running to leeward, as in fig. 6. Lastly, upon a supposition that his ships have all tacked, and none of them missed stays, still he must, of necessity, begin the attack, mix ships, and come to a close engagement, as in the former case.

SECTION IV.

The enemy's attempt to support his three sternmost ships by wearing his fleet.

167. Having shewn the consequences of an attempt to windward, let us also examine what may be expected from an attempt to leeward. Suppose the two fleets in the same position as in Plate XVII. fig. 2.; that is, the main body of the enemy extended in line of battle to leeward, his three sternmost ships entangled with the fleet B, whose Admiral, with the main body, keeps to windward, to observe, with a rigid attention, the motions of the enemy.

168. (Plate XVIII. fig. 7.). At the same time, suppose that the Admiral F has ordered his sternmost ship G to wear, and afterwards

afterwards the whole line, and that he is now running upon a contrary tack to leeward, as at H, wishing to support or bring off his three ships.

From inspection, it will be evident, that this attempt may be more dangerous than the attempt to windward; for it will expose a number of his ships to a raking fire, while, in the act of wearing, and the squadron, by getting so far to leeward, will be unable to give the proper support to the three ships.

It will open a gap for the fleet of B (who will immediately wear also, and follow him) to break in, as at A, and cut off the three ships without hope of recovery.

And, if F shall still persist in the endeavour to recover his three ships, he will be obliged to begin the attack, under all the usual disadvantages.

169. (Plate XVIII. fig. 8.). Again, upon another supposition, that the headmost ship of the enemy H, with the four or five next a-stern, have wore, and are running upon a contrary tack, wishing, as before, to support or bring off the three ships, the rest of the fleet intending to wear also, and follow in succession, is it not evident that this movement, being more unseaman-like, will be worse than the last?

It will expose an additional number of ships, particularly the last two, as at G, and will, at the same time, make an opening for the main body of B's fleet to fall in and cut off the three ships, as in the former case.

170. (Plate XVIII. fig. 9.). Again, should the enemy F wear and bear away with his whole ships at one and the same time, as in fig. 9. it is evident that this movement must have the consequence of a downright flight, with the certainty of losing the three ships.

171. Lastly, upon the supposition that such an attack has been made, and that the three ships are entangled, it generally follows, that, though the wind may be blowing a fresh gale at the beginning of the battle, yet it often falls away so much from the effect of a violent cannonade, that it may be impossible for the headmost ships of F's fleet to give the least assistance to his ships distressed in his rear.

172. From what has been said, it will appear, that a fleet B, keeping connected in a body to windward, *may* come up with, and entangle the three sternmost ships of an enemy F, extended in line of battle, and going off to leeward, and, at the same time, be able to overawe the remaining main body of their fleet; and that, having forced the position, as in plan 2d, the whole consequences, as already described, must follow; that is, F must submit to the loss of three ships.

What has been hitherto said proceeds upon a supposition, that the fleet F has kept on his course till the fleet B has come up with his rear; let it then be examined what other attempts the enemy F can make to avoid coming to close engagement upon equal terms.

SECTION V.

The enemy endeavouring to avoid the attack upon his rear by wearing, and passing on contrary tacks to leeward.

173. (Plate XVIII. fig. 10.). Suppose a fleet of ships of the enemy standing on the larboard tack to leeward, and going off as before at F, and a fleet of ships in a collected state or position to windward, as at B, fig. 10.

174. (Plate XIX. fig. 11. and 12.). And suppose that the enemy F, perceiving the fleet B pointing an attack against his rear, as in fig. 11.; and that, in place of keeping on his course upon the same tack, should wear, and endeavour to pass on contrary tacks to leeward; for it will not be admitted that he can get to windward (see plan 12.), What will then be the effect?

175. Is it not evident, that the headmost ships of F must be forced to leeward by the fleet B obstructing his line of direction, or the line of his course? They must be forced to begin an attack at any distance B may choose.

176. (Plate XIX. fig. 13.). That they may receive such damage as will stop their way: That their way being stopped, will of course be an obstruction to the next a-stern; or, that these subsequent ships, to prevent this stop, must bear away to leeward of their crippled ships, as at G, which will not only prevent these ships from damaging the headmost ships of B, but will give time and opportunity to B to bring down his windward ships to fall in, either a-head or a-stern, that is, to the right or left, of his headmost ships A, and oppose ship for ship of the enemy upon equal terms. Vide fig. 13. plate 19.

177. But, should none of the headmost ships of the squadron F be crippled, that is, should F pass B without reach of cannon-shot, which undoubtedly he will do, still, while bearing away, he may be forced to suffer a distant cannonade, ship with ship, on equal terms.

178. (Plate XIX. fig. 14.). Whether he wears and gets back upon his former tack, as at G, in fig. 14.

179. Or continues to run before the wind, as at P, in fig. 15.

180. (Plate XX. fig. 16.). But, if F persists to pass on a contrary tack to leeward, and without reach of cannon-shot, is it not evident that B must some time or other come up with the rear of F, whether B shall, at any time, be a-breast of his center as in fig. 16.

181. Or of his rear, as in fig. 17. plate XX.

182. Or whether F puts right before the wind, as in fig. 18. plate XX.

Or runs off ship by ship, as he best can, as in fig. 19. plate XX.?

S E C T I O N VI.

The effect and consequences of the wind shifting during the attack from the windward, considered; in which shall be endeavoured to be comprehended every case, as well possible, as what may be probable.

183. So far the attack has proceeded with the wind fixed in one and the same quarter. To make the demonstration the more complete, it will be necessary to inquire, What might be the effect produced by a change of wind, should that take place during the action? For this purpose, let the opponent fleets be placed in some one of the preceding positions, representing the attack upon the three sternmost ships of the enemy, as in fig. 20. Plate XXI. Vid. No. 158. Plate XVII. fig. 2.

In which the fleet desirous of making the attack is represented in four divisions, as at B B B. A.

F. The fleet desirous of avoiding the attack, and abandoning his three sternmost ships at G.

C A S E I.

The wind shifting by degrees and coming aft.

184. In the commencement of the attack, let us suppose the wind, from being in the north at N, on the first onset, that it shall come more and more after and by the western quarter to K. Then it is evident, by the disposition of the two fleets, that the fleet F, by such change, will have acquired no advantage whatever; on the contrary, it will thereby be thrown just so much the farther to leeward.

C A S E II.

The wind shifting and coming by degrees round a-head.

185. Again, if the wind, by taking an opposite course, shall shift a-head, and shall come round by the eastern quarter to L, Plate XXI. fig. 21. neither will F have it in his power to avail himself of this, providing the fleet B, in continuing carefully to attend

attend his motions, and, affected by the impulse of the veering wind, shall stretch his fleet to leeward of him, but, at the same time, to windward of the ships as at O O, should F endeavour, by bearing round-up, to rejoin his own ships that are engaged in the rear at G.

186. (Plate XXI. fig. 22.). Representing both fleets on the starboard tack, shows, at the same time, that F has not thereby acquired any advantage.

C A S E III.

Of the effect, supposing the wind to veer continuedly round a-head.

187. Again, upon the supposition that F, by this last change, has now gained the wind, Vide Plate XXII. fig. 23. it will not be denied, that, in which case he may maintain it, and that it may be possible for him to make a circular course R R R to windward of B keeping the wind, as it may be disposed to veer round, by the eastern quarter, from the north at N to the south at S, or to the west at K, or even round to the north at N, from whence it set out; but, as he can be attended all the while by the fleet B, who will cut him off to leeward, he never will be able to recover his three ships at G..

C A S E

C A S E IV.

The wind in one instant shifting in direct opposition.

188. Lastly, if the wind, in changing, shall, in one instant, shift in direct opposition to where it was when the attack began, that is, from the north at N to the south at S, Vide Plate XXII. fig. 24. then, and, in that case, before one can judge whether such change shall be favourable for F or not, it will be necessary that the relative situation of the two fleets should be determined, such as it was when the change took place. For example:

189. If the headmost ships of the fleet F, that is, if his van and center, shall have separated at any considerable distance from his rear, as per Plate XXIII. fig. 24.

190. Or if, in the farther prosecution of this mode of attack, it shall have advanced to position as represented in fig. 25.*; it is evident, in both cases, that F, though, by this change, he shall have got to windward, yet, notwithstanding, he will not be able to avail himself of this seeming advantage, the fleet B having it still in their power to cut him off from his three ships.

191. On the other hand, if this instantaneous change of wind, in direct opposition, shall have taken place more early in the action,

* Vid. Plate XVIII. fig. 7. No. 168.

tion, that is, when the positions of the two fleets shall be such as represented in fig. 26. Plate XXIII. viz.

The fleet B in the position of four divisions B B B and A, and the enemy in the positions F and G.

Then F, who before was to leeward, by this instantaneous change of wind from the north (at N) to the south (at S), having now got to windward of every division of the fleet B, is it not evident, that it may be practicable for him to carry assistance to his three ships (at G) in the rear, and, perhaps, even to cut off some one of B's ships (at A), if they do not, with all convenient speed, bear away (as at C C), to put themselves under the protection of their friends (B) to leeward?

192. But whether he, (F), shall attempt to effect this manœuvre, by wearing his ships in the line, (as at H H), or, what seems most eligible, by making his ships tack, (as at I I), as it is to be presumed that his three ships, which have been some time engaged, must be considerably crippled, and not able to make sufficient sail, while endeavouring to bring them off, it will be difficult for him to prevent being drawn into a general and close engagement, which, by the supposition, he has all along endeavoured to avoid.

193. A farther prosecution of demonstrations, which are likely to lead us on to the *attack from the leeward*, we think proper to decline for the present; it is a new subject, and, of itself, re-

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quires

quires a separate discussion; we will therefore proceed to bring in-
to view those other accidents only which more immediately can af-
fect the *attack from the windward*, not that such can be attended
with consequences much different from what have already been
treated of, but the ideas once being started, and having great ap-
parent importance, it becomes necessary to give them a full in-
vestigation.

SECTION VII

Of Partial Breezes of Wind.

194. *When the fleet in pursuit shall be favoured with a breeze
of wind, while the fleet desirous of avoiding the attack shall be
becalmed,*

(Plate XXI. fig. 20.). Is it not self-evident, how unfavour-
able this must be for the enemy F? he will thereby be the more
easily overtaken in the pursuit; and, should the attack be begun
upon his three ships, they will with the greater certainty be
ruined.

195. *When the fleet desirous of avoiding the attack shall be fa-
voured with the breeze, while the fleet in pursuit shall be becalmed.*

It being evident, that the enemy (F) will have it in his power to
make his escape with his whole fleet, if this partial breeze in his fa-

your

your shall take place before the attack has begun, we shall pass on to the opposite case.

When the attack upon the three ships shall have commenced before this partial breeze in favour of F, the fleet pursued, has taken place.

196. (Plate XXI. fig. 20.). The variety of positions in which the two fleets may be affected is so great, and the consequences which can be supposed attendant on this case so numerous, it will not be attempted to give a separate discussion of each. The reader, however, by applying his own ideas upon the subject to the plans before him * will be able to supply this for himself. In the mean time, as it is imagined nothing in such investigation will be found that can materially affect the general issue, and since no breeze whatever can favour the fleet F, so as to enable it to sail round and round the fleet B, the fleet B all the while supposed to be lying becalmed, it will not be too much to say, that *this partial breeze in favour of the fleet F, taking place after the attack began*, although it may facilitate the escape of his van and center, will not avail him much in the recovery of the three ships in his rear, perhaps not in any case as yet exhibited, excepting in this one, where the wind, in one instant, had shifted in direct opposition, No. 191.

When the attack shall have commenced before the partial breeze in favour of F, the fleet pursued, has taken place, supposing the wind in one instant to have shifted in direct opposition.

197.

* Comprehended in Plates 17. 18. 19. 20. 21. 22. 23.

197. That, even in this case, No. 191. (Plate XXIII. fig. 26.), the same breeze which would favour F in the attempt to bring off his three ships, would, at the same time, favour the escape of the ships of B at A, as formerly described. That this partial breeze would require to be of considerable duration, otherwise F, in thus attempting to bring off his three ships, crippled as they will be, must hazard a general engagement, in like manner as already described, No. 192.

S E C T I O N . VIII.

Of winds blowing in contrary directions.

198. In supposing, at any place, the existence of two distinct streams of wind actually blowing in opposite directions, the one from the north (for example), the other from the south, or from any two other opposite points of the compass; at that place also must be supposed an intermediate space, a line of separation between the two streams, parallel to both, and to be often distinguished by a sort of calm upon the surface of the water, occasioned by the eddy winds partaking of the effect of the adjacent and contrary streams.

199. That the requisite examples may the more easily be exhibited, suppose Plate XXIV. to represent a space at sea, in which

two

two distinct streams of wind are discovered blowing from opposite directions, the wind N N on the left side of the plate blowing down the page from the north, and the wind S S on the right blowing up the page from the south, and let Y Y be the line of separation between the two streams; under which description also let Plate XXV. be comprehended, and let the usual characters serve to distinguish the different parts, viz.

B the fleet in pursuit;

F the fleet pursued;

G the three ships attacked;

A the four ships making the attack.

200. Now, whether ships shall be going large, (as in fig. 1.) or close haul'd, (as in fig. 2.) or running with the wind on the beam, (as in fig. 3.) still their encounter with the line of separation Y Y will be similar, and to the same effect; and in no other direction whatever can fleets encounter this accident of contrary winds than what can be comprehended under these three cases.

The letters K L and M, (fig. 1. 2. and 3.) represent the corresponding cases, when fleets coming from an opposite direction shall encounter, in like manner, such contrary streams of wind.

Of fleets encountering contrary streams of wind before the attack shall be begun.

201. For example, after the two opponent fleets have been maneuvering for some time in the same stream of wind, and have assumed positions as before described, No. 156. or as B and F,

N n

(fig.

(fig. 4. plate 24.) Let us suppose F the farthest a-head, that he has perceived the wind as changing to a direct contrary direction, and, from having had his ships on a larboard tack, as when at H, that he has got, or must be getting, his starboard tacks aboard, as at F F, or, in other words, that he has passed from one stream of wind, and has got into another, and contrary stream—is it not evident, if the fleet B shall stand on and follow, and shall get into this new stream of wind, the same with his enemy F, that he will be to leeward, (as in fig. 5.) and, of course, that the mode of his attack must be changed. (Vid. No. 192.)

202. Again, on the other hand, suppose B, in declining to stand on, shall continue in the northern stream of wind, (as in fig. 6.)—will it not be possible for him, by putting before the wind, as at C, to recover a position A to windward of F, so soon as ever he shall choose to pass from the one stream of wind to the other?

Cases after the Attack shall be begun.

203. Plate XXV. fig. 7. Represents the attack already begun *, and continuing in the northern stream, while F, abandoning his three ships, has got into the southern stream with his van and center.

204.

* Plate XVII. fig. 2. and 3. Nos. 156. 157. 158. 159.

204. (Fig. 8.). The attack continued in the northern stream, and B, with his whole fleet, dropping down the wind together, evidently will have the advantage of getting to the southward equally with F, the enemy, notwithstanding the efforts of F to get to windward in the opposite stream.

205. The fleet B in another view, (fig. 9.) is represented as aware of the accident before him, and having pushed a-head with his van and center, will be prepared to support his attack of the three ships, whether he shall continue in the northern stream as at C, or shall pass into the contrary stream, as at D, (fig. 10.)

206. (Fig. 11.). - Again, on the other hand, should the fleet B, in continuing the attack, stand on, as at B B B, and, without precaution, shall have followed, and get into the same stream of wind with the enemy F; then F, of consequence, being to windward, will immediately have it in his power to carry assistance to his three ships, but whether by wearing his other ships in the line, as at H H, or by tacking, as at I I, will still be exposed to the hazard of a general engagement, as before described, No. 192.

207. From all which it follows, that a collected and connected fleet of ships to windward will, on every occasion, be able to make an advantageous attack upon a fleet of ships to leeward, and wishing to avoid a close engagement; and that the attacked fleet lying at such disadvantage as no manœuvring whatever can compensate, must be worsted.

SECTION IX.

Other Opinions how this Attack from the Windward should be conducted.

208. Many eminent seamen, however much they may be convinced that an attack made upon the rear of an enemy's fleet will have a much better chance of success than in the case of an attack upon the whole line, or even on the van, as hitherto practised, have still different opinions how this attack should be conducted; these, as given to me, it is proper should be laid before the reader, although they are not what I would approve of.

209. (Plate XXVI. fig. 1.) *First*, If it is supposed that the attack shall be made by the greater part of the force of B's fleet, coming right before the wind, upon the six sternmost ships of an enemy F, is it not evident, that the ships of B, by making the attack in this manner, must be exposed, without a possibility of return, to as many broadsides from each of these six ships of F as can be got ready during a course of two miles?

Hence, as the said ships of B will assuredly be disabled, before they will have it in their power to hurt the enemy, this disadvantage should determine the impropriety of this mode.

210. (Plate XXVI. fig. 2.). Suppose again, That some part of the force chosen to make the attack shall be sent to leeward, (as at A), as well as to windward of the three ships determined to be attacked, (as at C.)

But the danger supposed, of shot passing over the enemy's ships, and striking those of friends, may be an objection to this mode.

211. (Plate XXVI. fig. 3.). Others have been of opinion, that the headmost ship A, chosen to make the attack, shall come close up along side of the sternmost of the enemy, and, having delivered her fire, shall push along the line as far as possible, which may be supposed to be the sixth ship of the enemy F; and, as it is evident that this first ship A may have received six broadsides, that is, a broadside from every one of the six enemy's ships, during her course in passing them, it has been thought possible that the other five ships C C C C C, by following close after her, may attain their stations, each a-breast of her opposite, without having received a greater number of broadsides than they have had it in their power to return; and, therefore, that by this mode the number of ships to be attacked will be determined: For as many ships as the leading ship shall be able to reach, as many ships will the attacking fleet be able to carry.

212. (Plate XXVI. fig. 4.). A fourth mode of attack, which seems to be composed from a medium taken from the last. Let it be supposed, as in the former cases, that the fleet B has been
O o brought.

brought up to action in a collected manner, but subdivided only so far as the service may require, (as formerly stated in fig. 2.), and that the leeward division A shall be more particularly destined for the immediate attack, while, at the same time, the body of the fleet, keeping to windward, shall be supposed attentive to give the necessary support where required.

Then let it be supposed, that the headmost ship C, making the attack, having been soon crippled, shall not have been able to push farther than the third or fourth ship of the enemy's line :

Is it not easy to conceive, say they, that some one, or more, of the ships to windward, attentive to support and supply her place, may bear down on the fourth ship of the enemy, under cover of the smoke, throw in her fire, and push on to the fifth or sixth ship, as at D, or, perhaps, farther ; and that so far as this fresh ship D, or a second fresh ship E, may be able to push, so many ships of the enemy may be expected to be carried ?

For, whatever ships of the enemy can be got a-breast of, at a proper distance, *may be disabled, and therefore commanded*, by the numerous fresh ships kept to windward for this purpose.

213. In all the different attacks upon the rear, it has, by some, been thought a great object, if practicable, to throw a raking fire into the rear of an enemy's line of battle, by ships detached for that purpose, as at O. For if shot, as has been said, can take effect at a distance of two miles, from this position it will surely reach the sixth ship, if the enemy's line shall be formed at two cables length afunder ; and, if formed at one cable's length afunder, it will reach, and may cripple the twelfth ship.

SECTION

S E C T I O N X.

Conclusion, with General Observations.

In the preceding Narrative and Demonstrations, we think it is shown,

214. 1. That British seamen, from the nature, as well as the greater extent of the navigation upon our coasts, must, of necessity, be superior, both in skill and intrepidity, as well as in number, to those of other nations.

215. 2. That deficiency in point of sailing, upon many occasions, evidently has not been the cause of these late miscarriages; but, if it has *really* been the cause of miscarriage in others, Is it not high time to set about such reformation in our dock-yards as may recover an equality in a point so important? Even supposing this to be true, Why should we uniformly attempt getting up with the enemy's van, with a view to carry their whole fleet, instead of contenting ourselves with a certainty of cutting off a few of their dullest sailing vessels in the rear?

216. 3. That the mode of running down the wind in a line, each ship directing her course upon her opposite, and pointing the

the attack upon the van, with a view of stopping it, in preference to an attack upon the rear, has proceeded from an idea of carrying every ship in the enemy's fleet; but this mode has evidently given the enemy an opportunity of disabling our ships, and preventing us from coming close along-side of them.

APPEN-

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X.

ADMIRAL SIR GEORGE POCOCK'S ENGAGEMENTS *with*
the FRENCH FLEET, commanded by Monsieur d'ACHE, in the
*East Indies, anno 1758.**

* *Admiralty-Office, October 12th 1759.*—Captain LATHAM, late
 ‘ *of the Tyger, arrived at Portsmouth on the 9th instant, in*
 ‘ *the East India Company's ship the Admiral Watson, with*
 ‘ *letters from Vice-Admiral Pocock, giving the following*
 ‘ *account.*

‘ Admiral Pocock being joined by Commodore STEVENS
 ‘ in Madras road, with the reinforcements from England, and
 ‘ having put his ships in the best condition possible, April 17th
 P p ‘ 1758,

* The printing had advanced thus far, before the Author thought of including these engagements. They were in the same war; and about two years after that of Admiral Byng. A description thereof, giving an opportunity of introducing new matter, will the more elucidate the subject, and will at the same time compleat the collection of those sea engagements, in which British Fleets, being to windward, by extending their line with the design to stop, take, destroy, or disable the whole of the enemy's line to leeward, have been disabled before they could reach a situation from whence they could annoy the enemy, &c. &c. Vide page 43. Section I.

' 1758, failed in order to get to windward of Fort St David's,
 ' to intercept the French squadron, which by intelligence he
 ' was made to expect was on their approach from the west-
 ' ward, from the Isle of France : The 29th, in the morning, saw
 ' seven ships in Fort St David's road, getting under sail, they
 ' joined two others in the offing, and concluding them to be the
 ' enemy, immediately gave chase : These ships, nine in all,
 ' standing off shore under top-sails, formed the line of battle
 ' a-head : Admiral Pocock formed his line of battle too ; and,
 ' as soon as his ships had got into their station, being nearly
 ' within random shot of the enemy, bore down upon the
 ' Zodiaque, on board which ship Monsieur DE ACHE wore a
 ' cornette ; but observing the Newcastle and Weymouth that
 ' they did not bear away at the same time, he made their sig-
 ' nals. The enemy began to fire upon the English as they were
 ' going down ; but the Admiral did not make the signal to en-
 ' gage, till he was within half musket shot of the Zodiaque,
 ' which was about three o'clock. A few minutes after, per-
 ' ceiving the ships were not all got close enough to the enemy,
 ' he made the signal for a closer engagement ; which was imme-
 ' diately complied with by the ships in the van. At half past
 ' four, observing the rear of the French line had drawn up
 ' pretty close to the Zodiaque, the Admiral made the Cumber-
 ' land, Newcastle, and Weymouth, signals to make sail up and
 ' engage close. Soon after Monsieur DE ACHE broke the line
 ' and

British Ships.

Elizabeth, 64	} Yarmouth, the Admiral, 64	Weymouth, 60	} Queenborough, Protector store ship.
Tyger, 60		Cumberland, 64	
Salisbury, 50		Newcastle, 50	

and put before the wind: his second a-stern, who kept on the Yarmouth's quarter most part of the action, then came up alongside, gave his fire, and bore away. The other two ships in the rear came up in like manner and then bore away; and a few minutes after observing the enemy's van to bear away also, the Admiral hauled down the signal for the line, and made the signal for the general chase. About six observing the enemy join two ships four miles to leeward, and at the same time hauling their wind to the westward, and seeming to form a line a-head, and the Yarmouth's masts, yards, sails, and rigging, as well as the Elizabeth's, Tyger's, and Salisbury's, being so much damaged as to prevent their keeping up with the ships that were in the rear during action, who had received but little damage, and night approaching, the Admiral followed the enemy as well as he could, standing to the south west, in order if possible to keep to windward of them, in hopes of being able to engage them next morning. But, as they showed no lights, nor made any night signals, that could be observed, he did not see them through the night, nor next morning; and therefore concluding that they had weathered him in the night, by being able to carry more sail, he continued his endeavours to work up after them, until six in the morning, May 1st, when finding he lost ground considerably, he came to an anchor about three leagues to the northward of Sadras, where he was informed that the Bien Amie of

74

French Squadron.

Le Bien Amie

Le Compt de Provence,

Le Vengeance,

Le Conde,

Le Zodiaque,
Mon. de Aché,

Le St Luis,
Le Duc de Orlans,
Le Duc de Bourgoyne,

Frigates.

Le Sylphide
Le Diligent,

— Le Moras joined after the battle.

‘ 74 guns (a ship of the enemy) had received so much damage
‘ in the action, that they were obliged to run her ashore a little
‘ to the southward of Alemparve, where the French squadron
‘ was at an anchor.

‘ The French arrived in St David’s Road at nine in the mor-
‘ ning the day before the British Admiral fell in with them.
‘ They had not landed any troops before the engagement. The
‘ action was about 7 leagues W. b. N. of Alemparve. The Ad-
‘ miral observes, that Commodore STEVENS, Captain LATHAM,
‘ and Captain SOMERSET, who were in the van, and KEMPEN-
‘ FELT, the Commodore’s Captain, behaved as became gallant
‘ officers; and that Captain HARRISON’s behaviour, as well as
‘ all the officers and men belonging to the Yarmouth, gave him
‘ sensible satisfaction; and that, had the Captains in the rear
‘ done their duty as well, he should have had a great pleasure
‘ in commending them; but, their manner of acting in the en-
‘ gagement appeared so faulty, that, on his return to Madras, he
‘ ordered a court-martial to assemble, and inquire into their con-
‘ duct. In consequence of which, Captain NICHOLAS VINCENT
‘ was sentenced to be dismissed from the command of the Wey-
‘ mouth, Captain LEGG of the Newcastle to be cashiered from his
‘ Majesty’s service, and Captain BRERETON of the Cumberland
‘ to lose one year’s rank as a post-captain.

‘ Admiral Pocock having repaired the most material damages
‘ of his ships, put to sea May 10. with an intent to get up to
‘ Fort St David’s, but was not able to effect it. He got sight of
‘ Pondicherry the 30th, and the next morning the French squa-
‘ dron, which had been there ever since the 5th, stood out of the
‘ road, and got away, notwithstanding the Admiral’s utmost en-
‘ deavours to come up with them. On the 6th of June, upon
‘ receiving

‘ receiving an account that Fort St David’s had surrendered to
‘ the French, he judged it prudent to return immediately to Ma-
‘ dras, to refresh his squadron.

‘ The Admiral sailed again, July 25th, in quest of the enemy ;
‘ and on the 27th, in the evening, got within three leagues of
‘ Pondicherry road, where he perceived their squadron at an-
‘ chor, consisting of 8 sail of the line, and a frigate. They got
‘ under sail the next morning, and stood to the southward. The
‘ Admiral made the signal to chase, and endeavoured to weather
‘ them, as the likeliest means of bringing them to action ;
‘ which, however, he was not able to accomplish till August 3d,
‘ when, taking advantage of the sea-breeze, he got the weather-
‘ gage, and brought on the engagement about one o’clock.
‘ Monsieur DE ACHE set his forefail, and bore away in about
‘ 10 minutes, his squadron following his example, and continu-
‘ ing a running fight, in a very irregular line, till 3 o’clock.
‘ The Admiral then made the signal for a general chase, upon
‘ which the French cut away their boats, and made all the sail
‘ they could. He pursued them till it was dark, when they e-
‘ scaped, by outfailing him, and got into Pondicherry road. The
‘ Admiral anchored the same evening off Carrical, a French set-
‘ tlement.’

British loss on this occasion 31 killed, 116 wounded. French
loss, says the Admiral’s Account, 540 killed and wounded.

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DESCRIP-

DESCRIPTION of Admiral SIR GEORGE POCOCK's Engagement with the French Fleet commanded by Monsieur DE ACHE, East Indies, off Fort St David's, 29th April 1758.

From the foregoing letters, altho' we have not been informed either of the particular direction of the wind at the time, or even upon what tack the two fleets were during this engagement, yet, from these letters, circumstances are so far explained, that there can be no doubt of forming a description, which, in all other respects, will be sufficiently satisfactory.

(Plate XXVII. fig. 1.) F., The French squadron formed in line of battle to leeward, upon the starboard tack, as it is supposed; for it was standing off from the land, with the wind in the western quarter.

B. Admiral Sir GEORGE POCOCK's squadron; each ship come to her station, and formed in line of battle, thought to be about random shot distance to windward.

Plate XXVII. Fig. 2. F. The Zodiaque, on board which ship Monsieur DE ACHE, the French Admiral, wore a cornette.

A. The British Admiral in the Yarmouth bearing down upon the Zodiaque, but making signals to the ships C C C astern, the Cumberland, the Newcastle, and the Weymouth, the captains of these vessels, as it appeared, not having bore away together and at the same time with the Yarmouth, and the other ships.

ships in the van B. The enemy all the while kept firing upon the British fleet during their course in coming down; nor did Sir GEORGE POCOCK, the British Admiral, make the signal to engage till he was within half musket-shot of the Zodiaque, as at E, about three o'clock in the afternoon.

Neither the ships D in the rear, nor the ships in the van M, were yet come to their stations, that is, at fighting distance.

Fig. 3. B. The Admiral, in the Yarmouth, arrived at a station, within half musket-shot of the Zodiaque F; but, perceiving that all his other ships had not even yet got sufficiently close in with the enemy, he made signal for a closer engagement, which was immediately complied with by the ships of the van, as at C.

Plate XXVII. Fig. 4. The Admiral, in the Yarmouth B, observing that the ships in the rear of the French line had drawn close up, as at G, with a view to support their Admiral in the Zodiaque F, he made the signals of the Cumberland, Newcastle, and Weymouth, D, to make sail up and engage, that is, to support him in his ship the Yarmouth.

Plate XXVII. Fig. 5. B the Yarmouth. Sir GEORGE does not say that the ships D in his rear complied with this last signal, but he says that Monsieur DE ACHÉ, in the Zodiaque, immediately broke his line, and put before the wind, as at FF; That his second aftern, who had kept upon the Yarmouth's quarter the whole of the fore part of the engagement, afterwards came up along-side,
gave

gave his fire, and then bore away in like manner, as at G. Immediately after this last, the two remaining ships H in the rear made sail, came up, and powered in their fire, reserved for the purpose, (of disabling the Yarmouth), and in succession bore away also. Last of all, the ships in the van I, taking example from the Zodiaque and the ships in the rear, quitted the line also, and put before the wind; and leaving the British van, which by this time were disabled from following them, they soon rejoined their center and rear, when altogether forming a new line of battle four miles to leeward, as at K K, they were again prepared to give the British squadron a reception, should they have the least inclination to make a second attack.

OBSERVATIONS on Admiral Sir GEORGE POCOCK's Engagement of the 29th April 1758.

Sir GEORGE has not been particular in giving us the positive situation of his ship the Yarmouth when he bore away to attack the Zodiaque. Supposing him to have been right to windward, and, in bearing down to attain a station at B, Plate XXVIII. Fig. 6. a-bread, and at half musket-shot from the Zodiaque, had he assumed the lasking course, so as to have formed the line of intersection A A, as in Fig. 6. his ships in going down, by suffering greatly, must have been crippled. Considering likewise, that the enemy, by running under top sails, must have been getting much a-head, he therefore would have had the greater difficulty in

in getting the ships in his rear up into action, as has already been explained by former examples, of Admiral BYNG, Admiral BYRON, &c.

Plate XXVIII. Fig. 7. Again, had he been a-stern of the enemy, as at A, Fig. 7. when he set out on this course, still the difficulty of getting the ships in the rear brought up would have been increased.

The attack, it seems, was not made according to this lasking form. Sir GEORGE has said, he bore down upon the Zodiaque, by which expression, and by what followed, it must be understood that it was his intention not only to steer his own ship with her head steadily directed upon the Zodiaque, but that his other ships, in the same manner, should be steered each with her head steadily directed upon her particular opponent.

In the prosecution of which intention, and while the enemy had way a-head, at the rate, perhaps, of two miles and a half *per* hour, the Yarmouth and every other ship of the Squadron, of necessity, must have assumed a course forming each of them a curve, as represented in Plate XXVIII. Fig. 8. which course in mathematical disquisitions, has been termed the line or curve of pursuit.

The very specious and favourable aspect of this kind of attack, attempted so soon after that of the unfortunate Admiral BYNG, and considering also the case of the officers who com-
manded

manded the ships in the rear, who were disgraced on this occasion, will make the discussion thereof under a particular head by itself the more necessary.

OF THE CURVE OF PURSUIT.

By the curve or line of pursuit is understood that curve described in the water by one ship in pursuit of another, when the ship in pursuit from the windward in bearing down shall steer her head continually directed upon the ship pursued.

Plate XXVIII. Fig. 8. Let F represent the ship pursued, to leeward, having motion a-head in the line F, G, as required for good steerage. Let B be the ship in pursuit, two and a half miles right to windward, which distance being expressed by the perpendicular B F ; let it be called the line of distance, or the line of common departure. And F's motion through the line of course F, G, suppose it at the rate of two and a half miles *per* hour, let it be expressed by the Figures 4. 8. 12. in the line F, G ; and the velocity of B required to overtake F, must be greater than the velocity of F.

T H E O R E M.

To discover what space the ship F must run through in the [line F G, before B, in describing the curve of pursuit, can overtake

take F; say as the difference of the squares of the velocities assumed is to the product of the velocities, so is B F, the line of common departure, to the space F G that the ship pursued must run through before she can be overtaken. Thus, when the velocities assumed shall be as 5 to 3,—Say, as 16, the difference of the squares of these numbers, is to 15, the product of these numbers, so is 16 (of any quantity, furlongs, for example,) the distance of B right to windward at the beginning of the course, to 15 furlongs, the space required for F to run before she can be overtaken.

The Curve of Pursuit constructed mechanically.

Plate XXVIII. Fig. 9. The line of common departure, F B, supposing it perpendicular to the line of course F G, Let any proportion, 5 to 3, be assumed: That while the ship F moves in the line of course F G through the first space, No. 1. suppose it three yards, the ship B from the windward, by steering a course continually directed upon him, shall in the same time move through the space, No. 1. in the curve of pursuit, at the rate of 5 yards; and, while F shall move through the space 1. 2. or second division in the line of course, that B in the same time shall have run through the corresponding space 1. 2. in the curve, being other 5 yards, and so on continually, protracting each their separate courses, in the proportion as 5 to 3, until they shall come in contact, or close along side of each other, that is, until the lines of their

their several courses shall meet in a point, as at G. Draw the lines 1 1, 2 2, and 3 3, &c. and they will nearly represent the curve of pursuit.

*Of the Application of the Curve of Pursuit in Sir GEORGE
POCOCK'S Engagement.*

That Sir GEORGE intended to make his attack in some such fashion, and that he attempted it with his own ship, the Yarmouth, there can be no doubt; but not having communicated his intention, or given it out in orders, or by instruction, to the commanders of his other ships, it is not surprising, that this mode of attack, in the execution, did not come up to his expectation.

Plate XXIX: Fig. 10. After much previous practice of the manoeuvre, had Sir GEORGE given instruction that each ship, in bearing down, should steer with her head continually directed upon her particular opponent in the enemy's line, then each of his ships, P, Q, R, with equal velocity assumed, would, along with B, the Yarmouth, have run down spaces, each in their several similar curves, equal to the divisions 1, 2, 3, 4, marked as velocities at the rate of 5, in the particular curve described by the Yarmouth, and in the same time in which the Zodiaque, with her associates, would have moved through the corresponding divisions 1, 2, 3, 4, marked as velocities at the rate of 3, in the line
of

of course F G ; then B, the British Admiral, with his three ships astern, when arrived at the line C, D, a station of fighting distance *, which cuts the curve in the point numbered 10, (if the enemy had not gone off,) could also have continued his course until his ship the Yarmouth, as well as every other ship of his squadron, might have come into contact, or close along side, each, of her particular opponent ; that is, the Yarmouth in contact with the Zodiaque at G, and the three ships in the rear of the Yarmouth, with the three corresponding ships in the rear, and astern of the Zodiaque.

It is to be observed, however, that the Admiral, B, when arrived at the point marked 10 in the curve, as formerly remarked, within fighting distance, far from having got a-breast of the Zodiaque, by this time, arrived at the correspondent point 10, in its line of course, has got little farther than a-breast of H, the third ship a-stern of the Zodiaque ; and the three ships D, in Sir GEORGE's rear, at this time are left a-stern of the enemy's whole fleet.

The Yarmouth never was in this particular situation at any time of the engagement. For, however well Sir GEORGE's three ships a-stern might have preserved their course, each in their proper curve, according to instructions, or according to the direction of their steerage with which they might set out in the

S f

beginning

* Made parallel to F, G ; the enemy's line of course, about 400 yards distance, termed sometimes pistol shot, or half musket shot. By Mr BYNG's engagement, it does not appear that his van was within this distance ; as musket shot was not known, or thought, to have taken effect in any of the ships even in that division.

beginning of the pursuit, it is evident that Sir GEORGE had not kept his intended curve: For, had he preserved his course in his proper curve, he would infallibly have been at the point number 10, in the curve of pursuit, when the Zodiaque was got to her correspondent point number 10, in the line of course F, G.

From this situation at the point 10, in the curve of pursuit, he must have passed along, and sustained the fire of, the whole ships in the enemy's rear, before he could have attained a station at A, a-breast, and at half musket shot distance from the Zodiaque. That he never was in the situation at the point 10, in the curve of pursuit, as described, and did not pass along the enemy's rear, and receive their fire, may be presumed, since he has not told us; but he has told us, that he did not give the signal to engage (that is, to begin firing) till he was within half musket shot of the Zodiaque, by which must be understood a station somewhere at A, nearly a-breast of the Zodiaque.

In which case, however much Sir GEORGE, in the beginning, might have wished to keep his course according to the curve of pursuit, yet, from farther consideration afterward, and while running down, foreseeing the consequences, he for certain made a change, and had given his course the lasking form, as M N, in order that he might attain this station at A, a-breast of the Zodiaque, at half musket shot distance, which he said he did.

This change from the first intention in the Yarmouth's course was not a thing of that kind which could, in one instant, be comprehended by a signal; and, if it was not in one instant comprehended, and put in execution by the ships in the rear, of necessity they were to be left considerably a-stern.

But

But this reasoning all the while is founded upon the supposition, that each ship of the squadron, by her course and her velocity assumed, had or could, without previous practice, have preserved her station in the curve of pursuit, should it even have been allotted to her by the Admiral, which will not be admitted. For in such case, each ship in succession, of necessity taking the rule for her velocity from the ship immediately a-head, would imperceptibly and unavoidably get into her wake as a leader, and by that means the ships in the rear, one after another, would fall more and more astern, from the very beginning of the course, in form as at E.

Plate XXIX. Fig. 11. The curve of pursuit begun from a distance a-stern, with the velocities 5 to 3 assumed as before; and if this distance F I, shall be equal to the distance to windward I B, the Resolution will stand thus, *as the difference of the squares of the velocities is to double the product of the velocities, so is the distance to windward I B, 16 furlongs, to 30 furlongs, the space which the ship pursued must run through before she can be overtaken*; in which case, the ships in the rear making the attack, when arrived at a station of fighting distance, the line I. M, parallel to F G, the course of the enemy's line of battle, will be left at a double distance a-stern, as appears from the figure.

Plate XXX. Fig. 12. Again, suppose the course of B to be begun from right to windward, and that the velocities shall be as 4 to 2, (a double proportion), say as the difference of the squares of the velocities 12, is to the product of the velocities 8, so is the distance

tance

tance to windward B F, 12-4ths of a mile to 8-4ths of a mile, the space which the ship pursued has to run before she can be overtaken; and supposing L M, the parallel line of fighting-distance, to be 440 yards as before, the ships in the rear, in approaching this station, will still be left a-stern about 400 or 500 yards.

From all which it may be concluded, that, whatever shall be the proportion and rate of the velocities assumed, or how much soever shall be the previous practice, the mode of attack, by this curve of pursuit, will in no way be found preferable to the mode in the lasking form; but will be found so much the worst of the two, as it will be more difficult in the execution, and the ships in the rear will be left the farther a-stern; and in general it is evident, that the curve of pursuit tho' a curve well adapted to bring one ship into the wake of another, is not at all suited for bringing one ship a-breast of another, and within a given distance.

With respect to general observations, they are the same as have formerly been introduced. By the nature of the attack, equally as in the engagements of Mr BYNG and Mr BYRON, the headmost ships must have approached the enemy, before it was possible for the ships in the rear to get into fighting distance. By the nature of this approach, the van and center were disabled before they could get into a position from whence, by retaliation, they could annoy the enemy. By the address of the enemy, as in Admiral BYRON's engagement, the rears of neither squadron had got into action. Though the Admiral, like Sir GEORGE RODNEY, in his engagement off the Pearl Rock, had
the

the merit of great personal courage, yet the attack, as put in execution by his ship the Yarmouth, being nearly the same as that of the Sandwich, of course was attended with the like want of effect.

On the part of the enemy in this engagement, and similar to every one of the other five of this class described, the Admiral, Mon. De Aché in the Zodiaque, so soon as he felt himself exposed to the British fire, quitted the line, and withdrew from battle, leaving his second and other ships astern, not only as a cover to keep up a good countenance, and to amuse Sir GEORGE POCOCK, but each ship after another throwing in their fire upon the Yarmouth in passing, by particular instruction, bore away in succession, to form a new line to leeward.

Admiral Sir GEORGE POCOCK's second engagement, of the 3d of August 1758, being so much alike with that of the 29th of April, no new description will be necessary.

the spirit of great personal courage, yet the attack, as put in execution by his ship the *Yarborough*, being nearly the same as that of the *Sandwich*, of course was attended with the like want of effect.

On the part of the enemy in this engagement, and similar to every one of the other five of this class described, the Admiral, when the *Aché* in the *Nodding*, to whom he felt himself exposed to the British fire, quitted the line, and withdrew from battle, leaving his second and other ships astern, not only as a cover to keep up a good countenance, and to amuse Sir George Pocock, but each ship after another throwing in their fire upon the *Yarborough* in passing, by particular attention, bore away in the direction, to form a new line to leeward.

Admiral Sir George Pocock's second engagement, of the 11th March 1781, seems to have alike with that of the 29th of April, no more determination will be necessary.

Fig. 1.

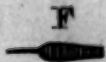
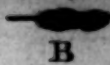


Fig. 2.



Fig. 3.

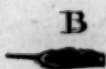


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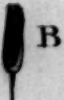
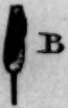
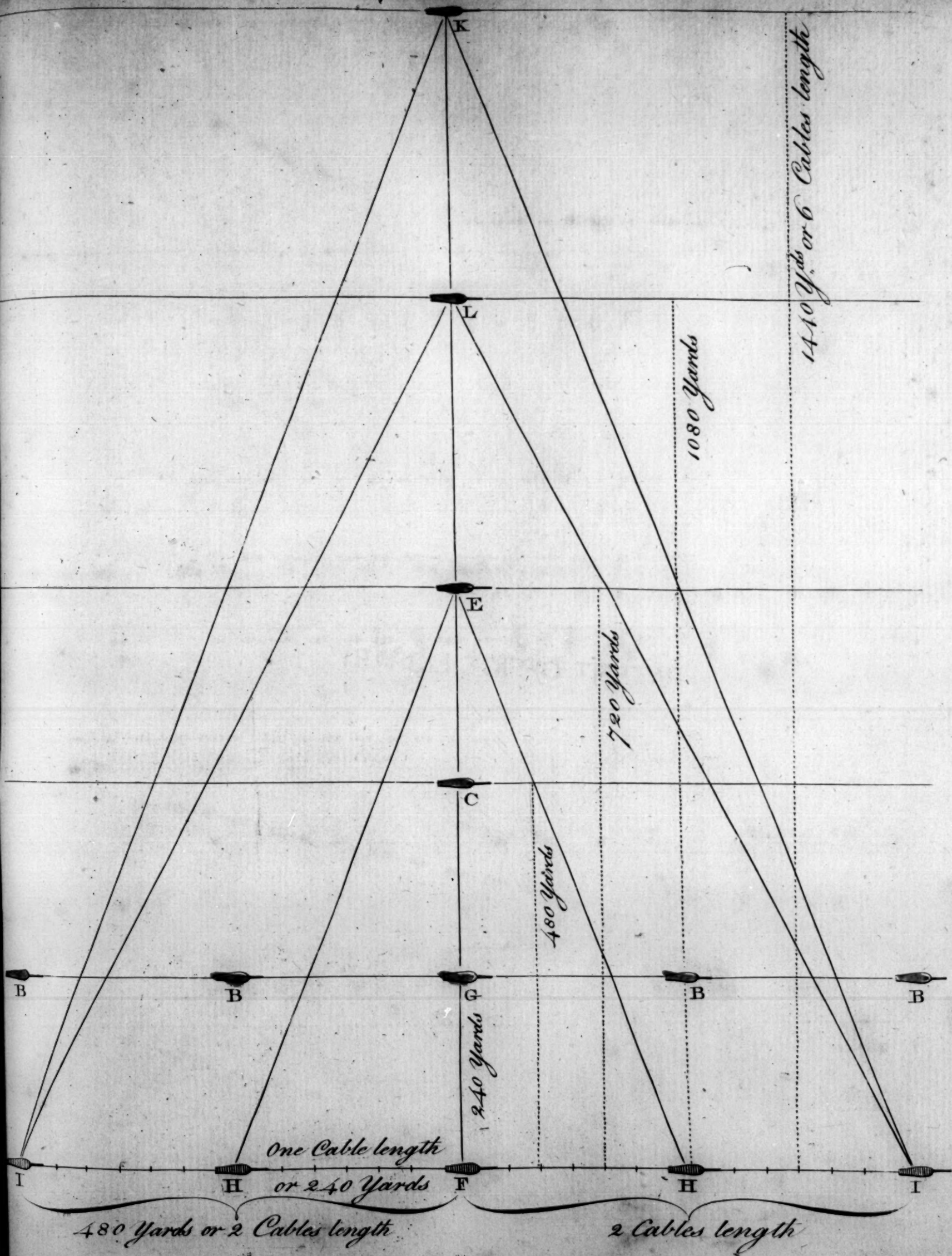


Fig. 5.



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Fig. 1.

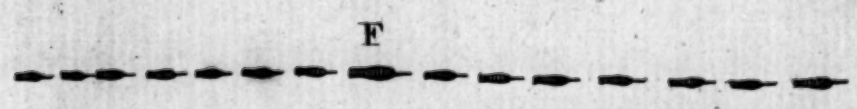


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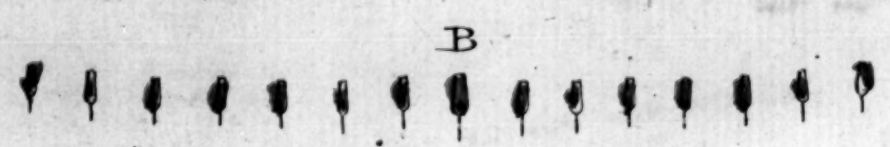


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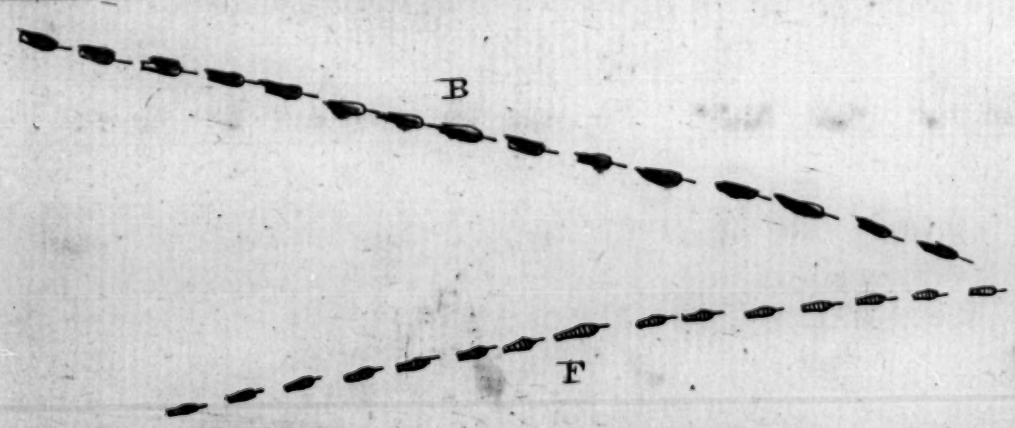
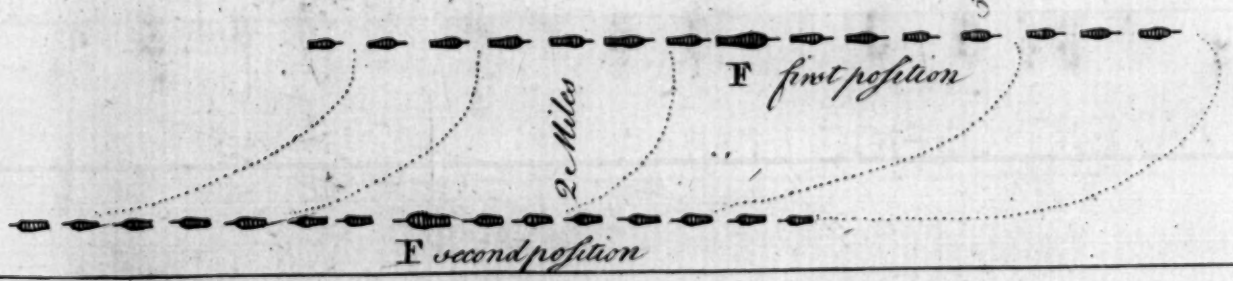
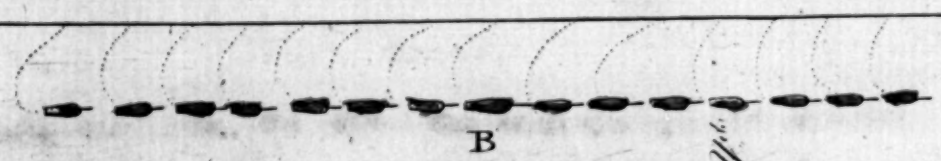


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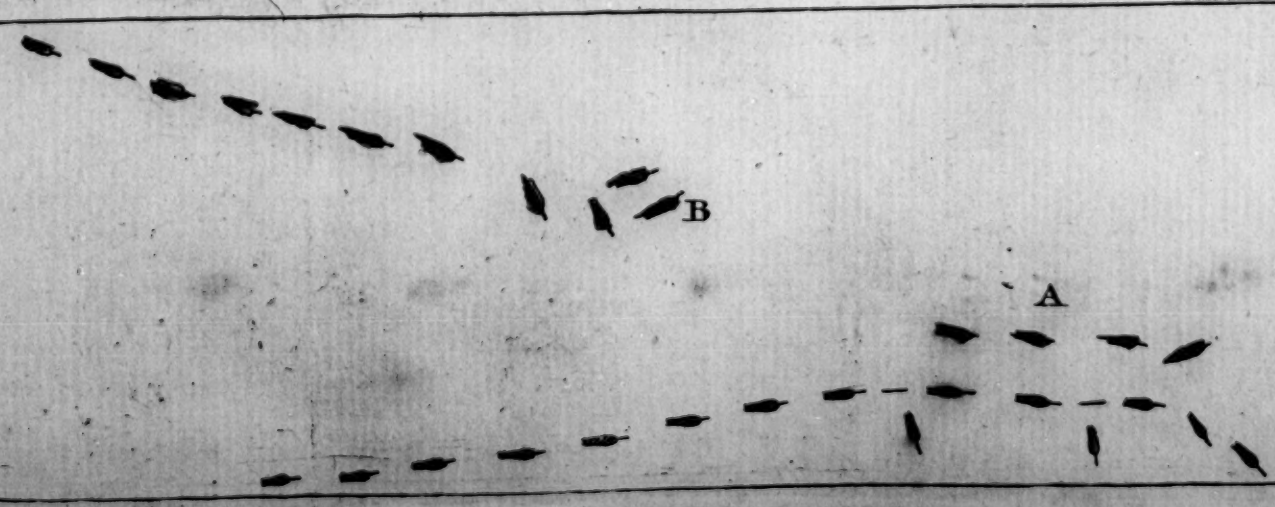
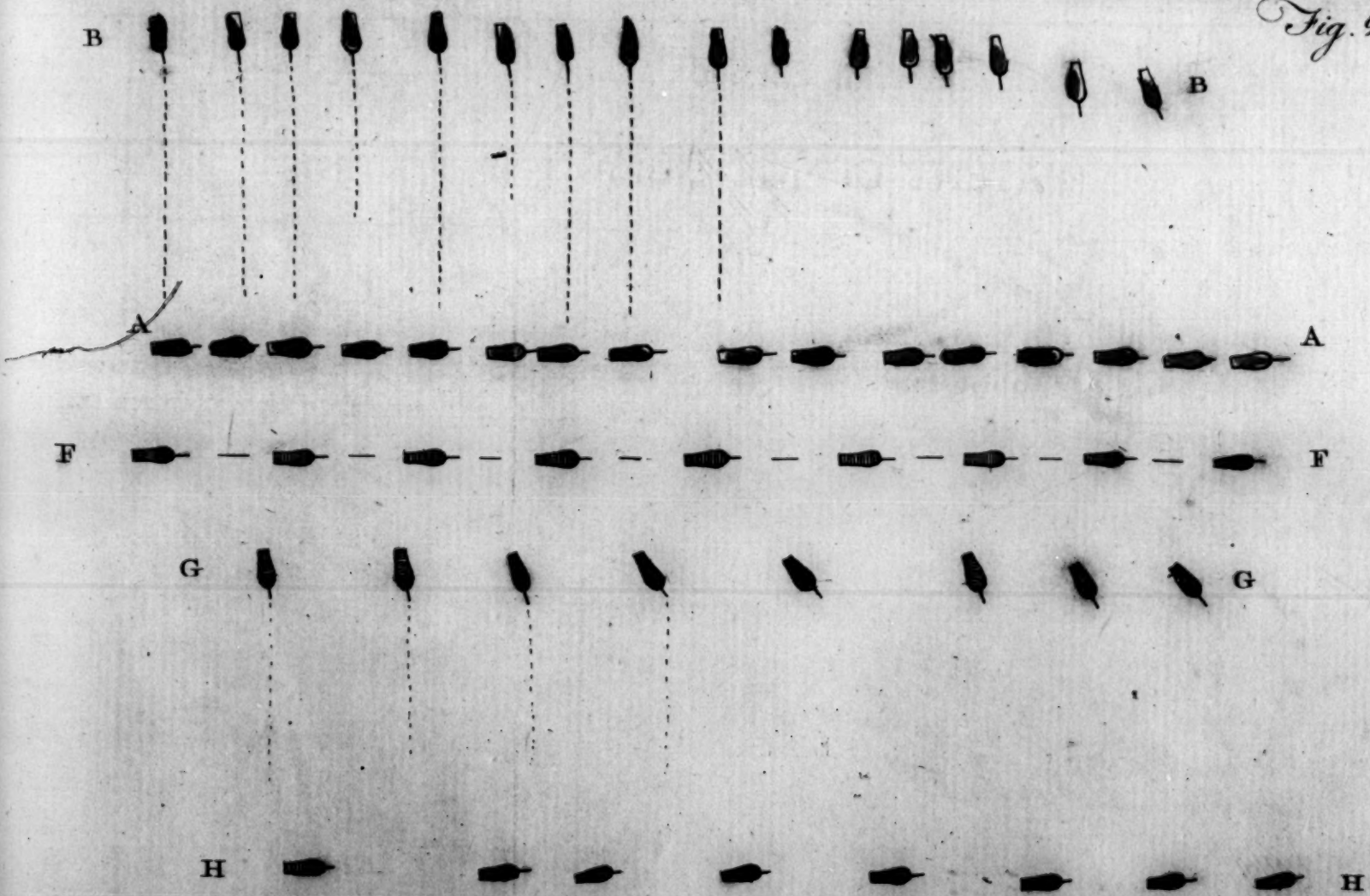
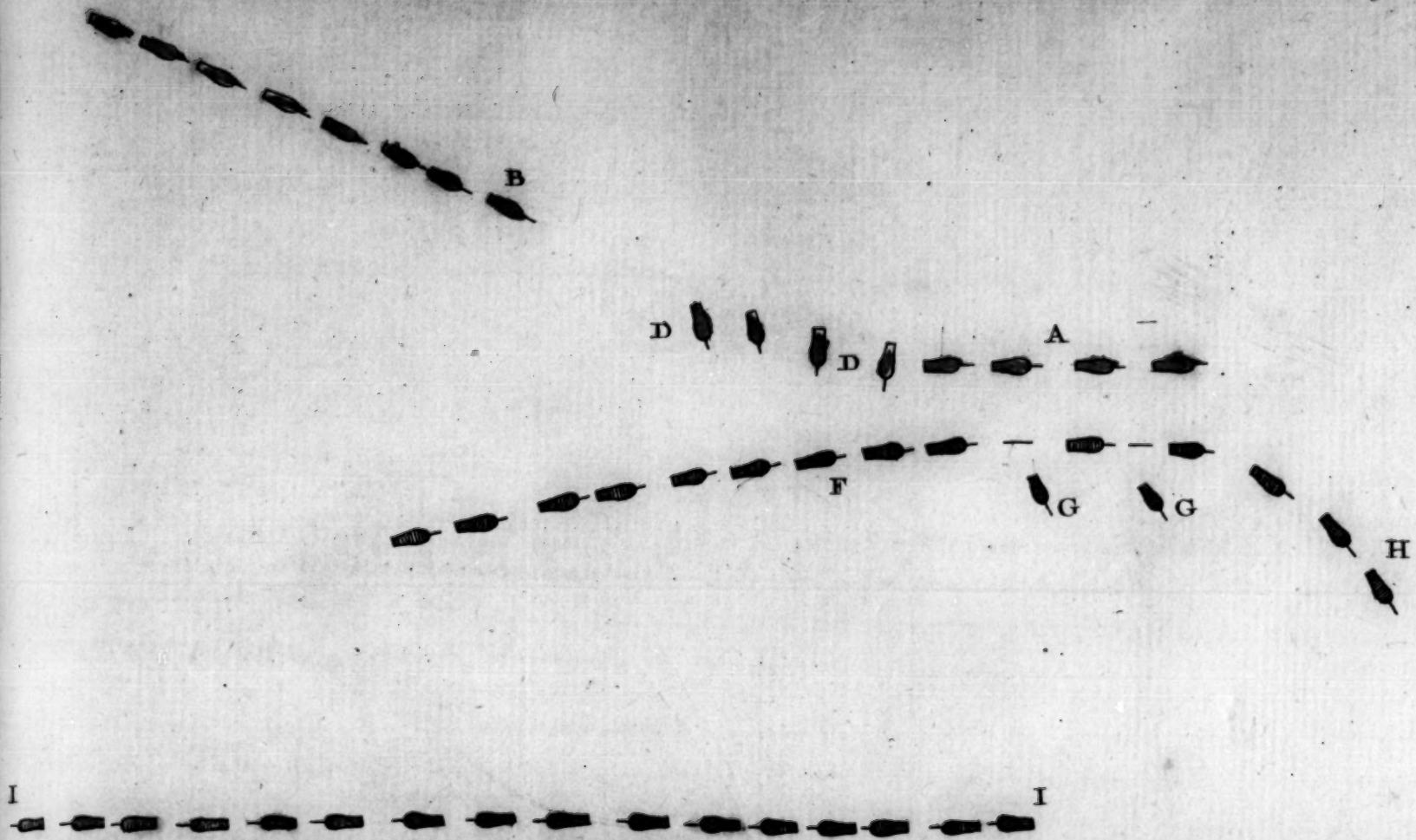


Fig. 5.

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Fig. 1.

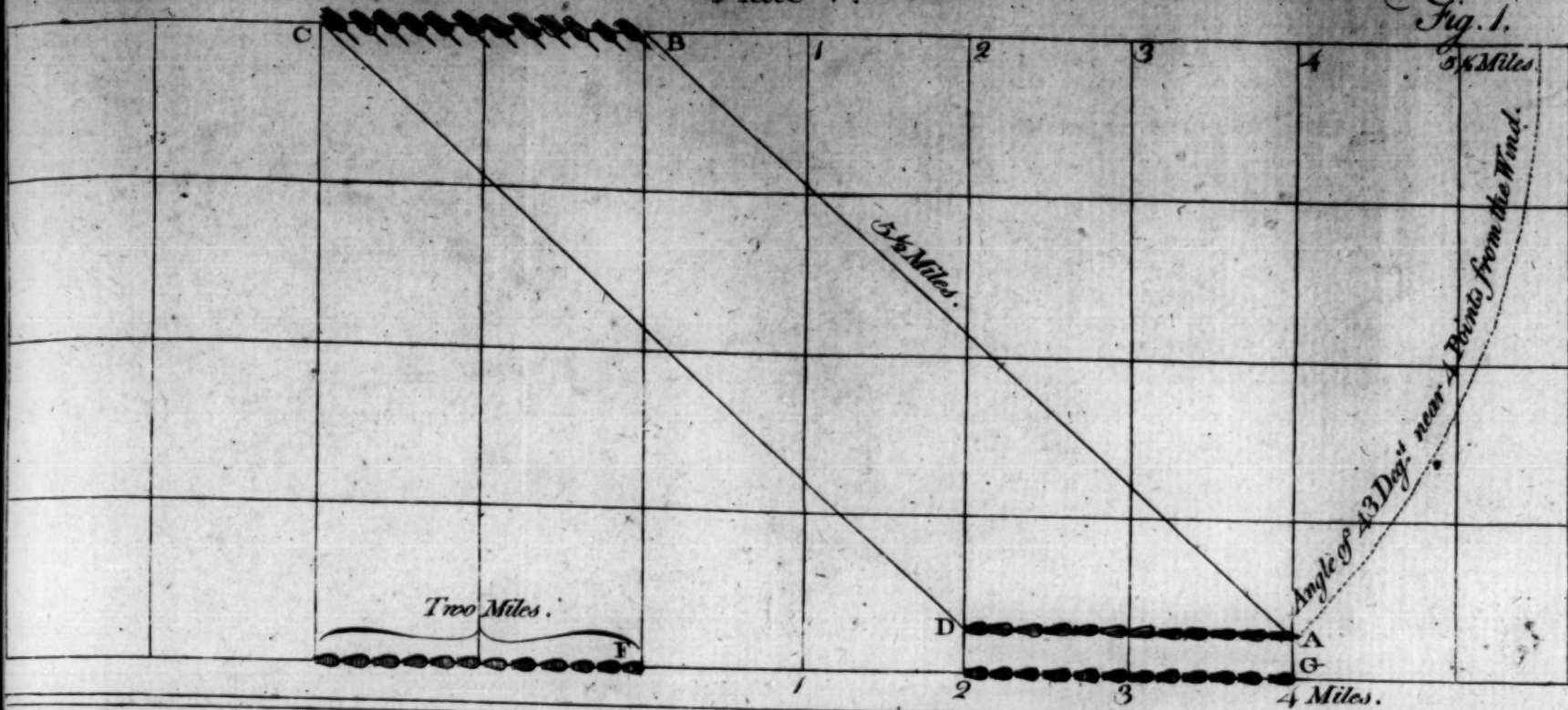


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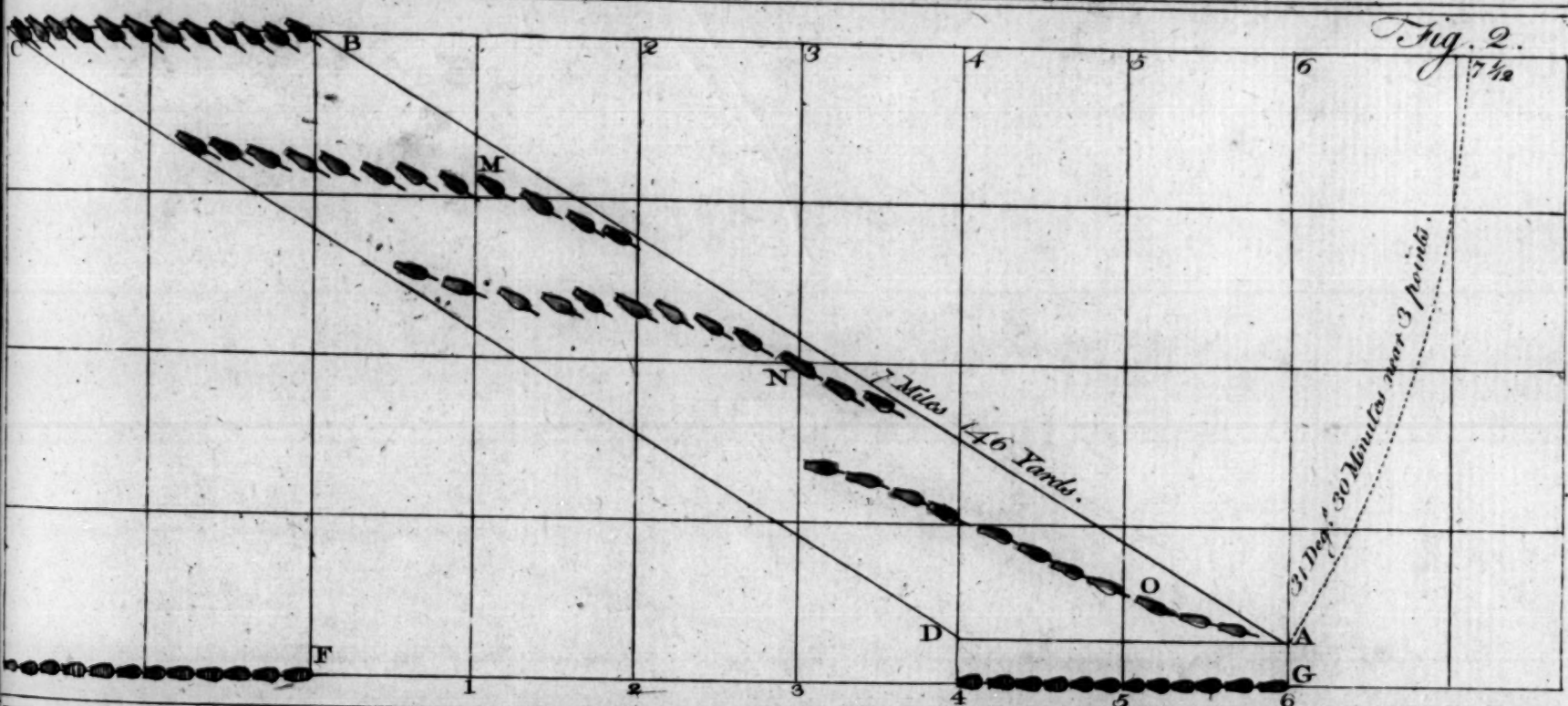
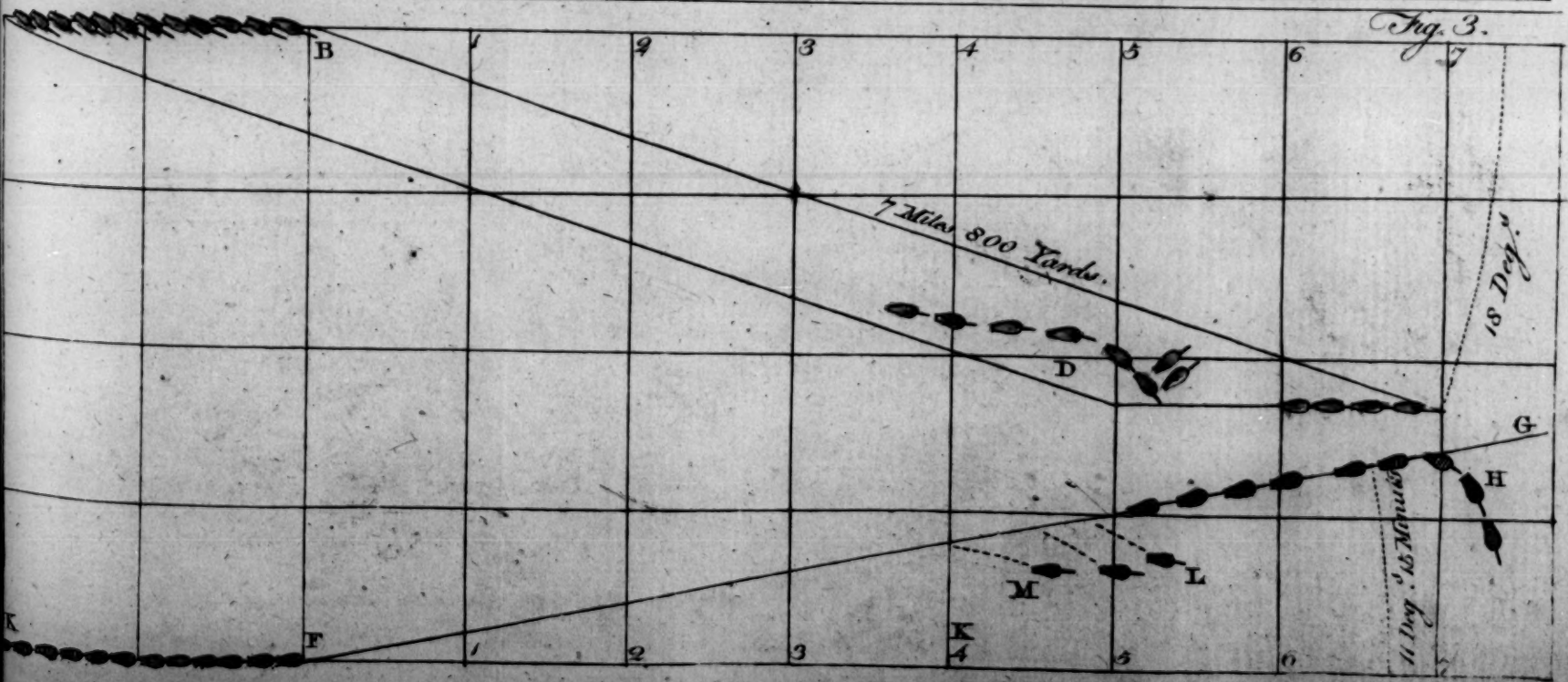


Fig. 3.



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Fig. 1.

Admiral Bings Battle
Mediterranean 20 May 1756

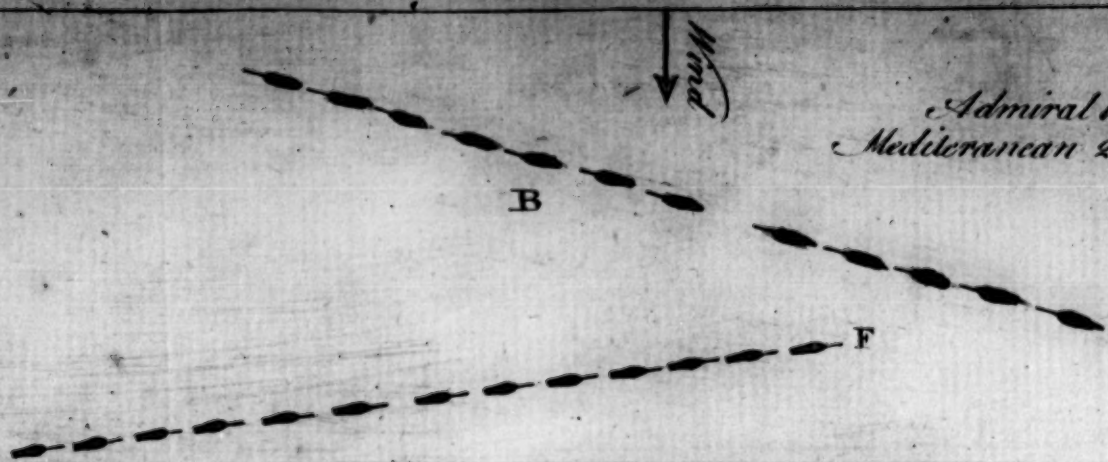


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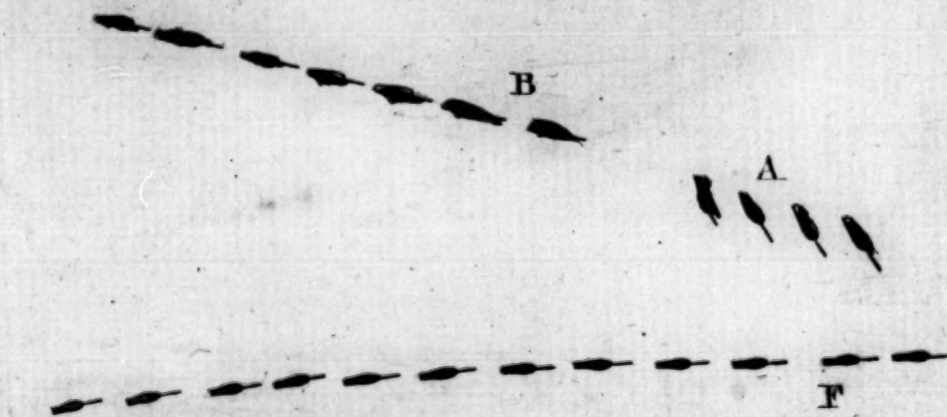


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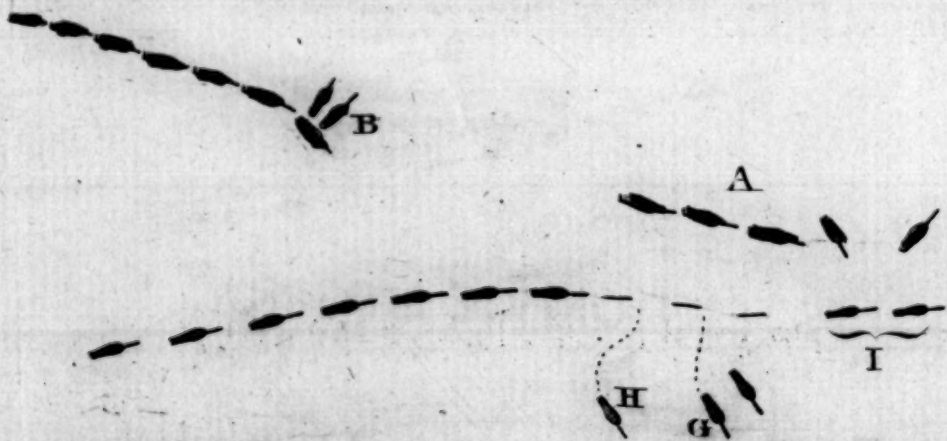
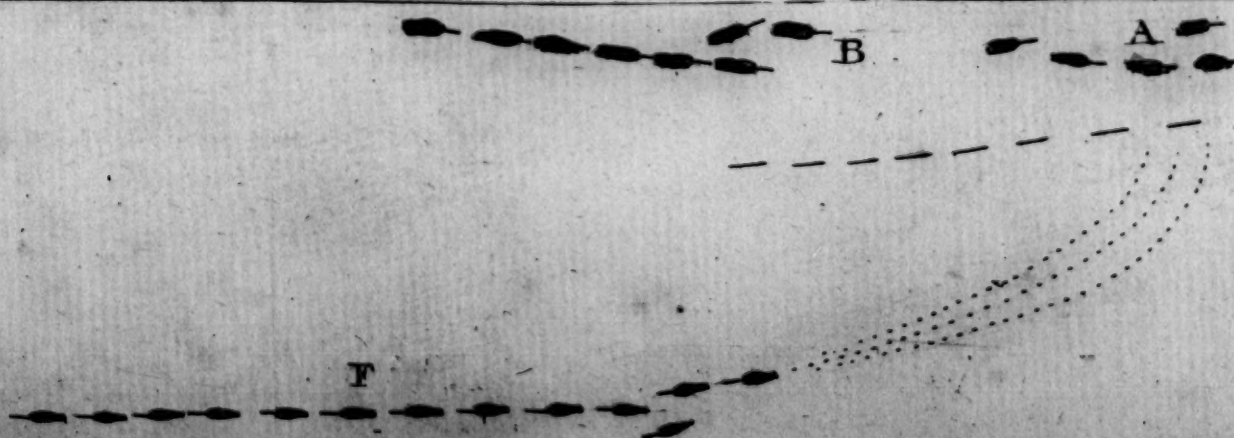


Fig. 4.



Fig. 5.



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Admiral Byron off Granada
6 July 1779.

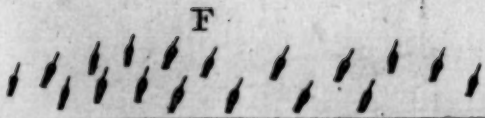
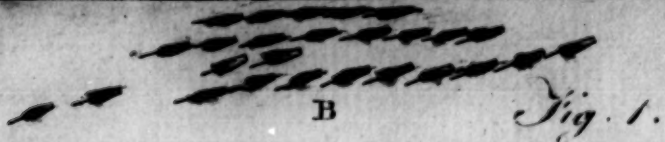


Fig. 2.



Fig. 3.

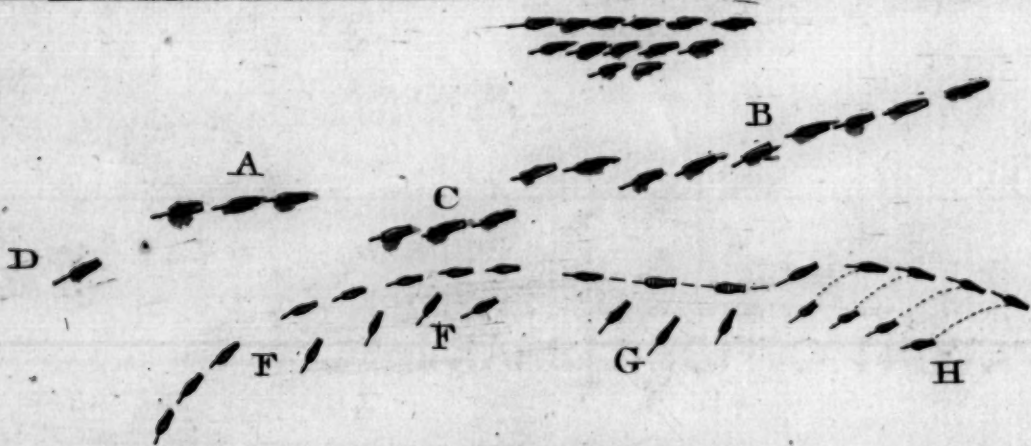


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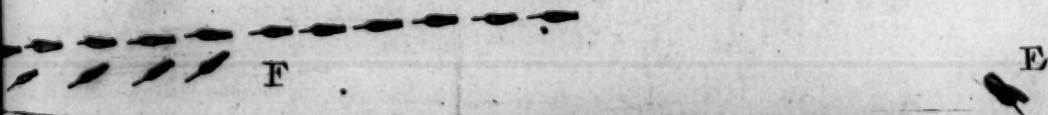
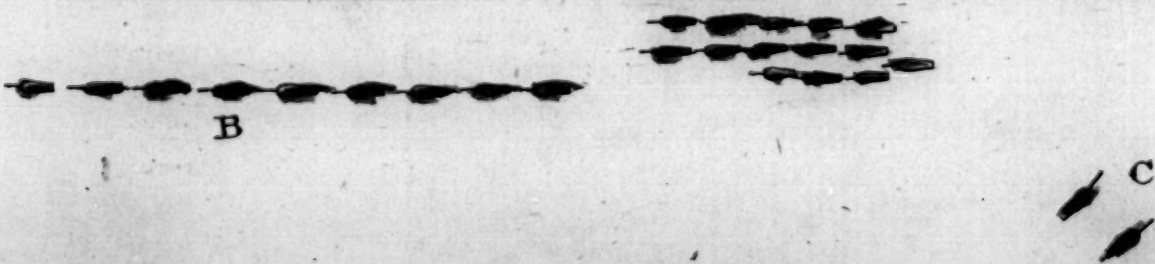
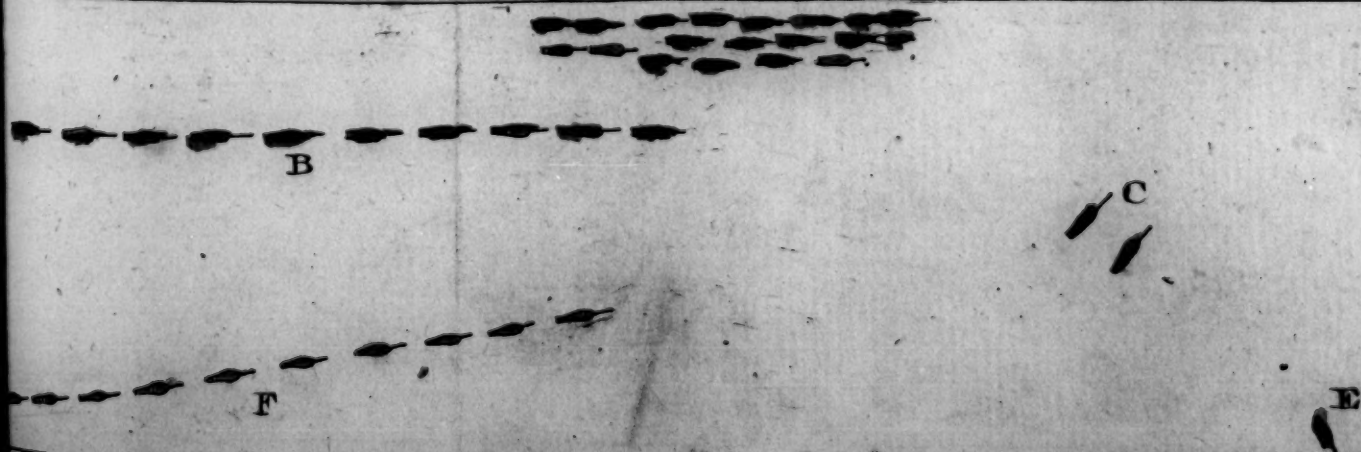


Fig. 5.



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Admiral Arbuthnots Battles of
the Chesapeake 16 March 1781.

Wind
↓

Fig. 1.



Fig. 2.

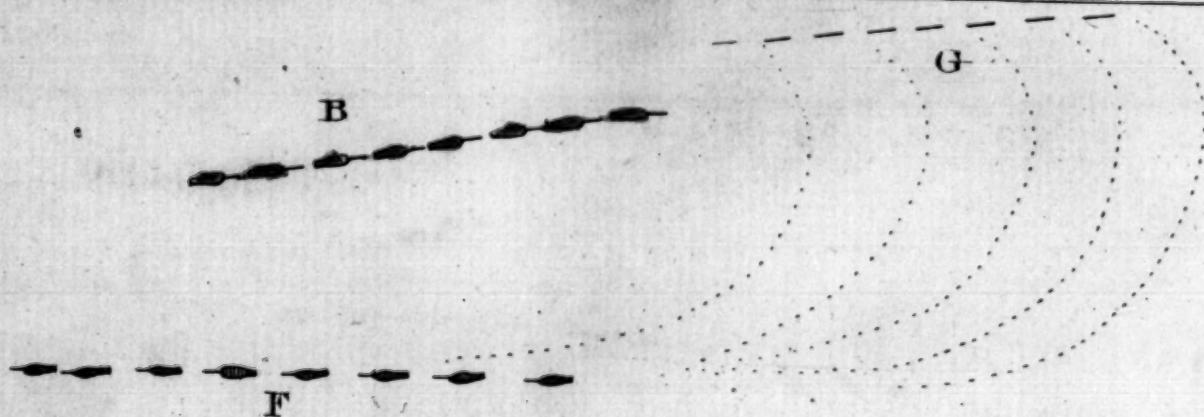


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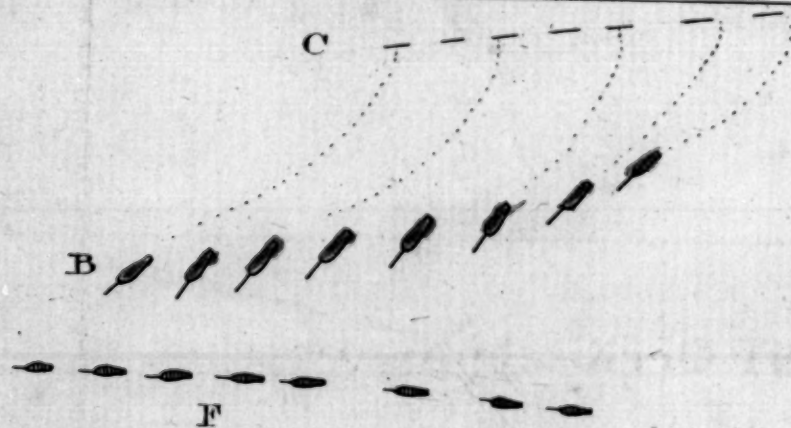


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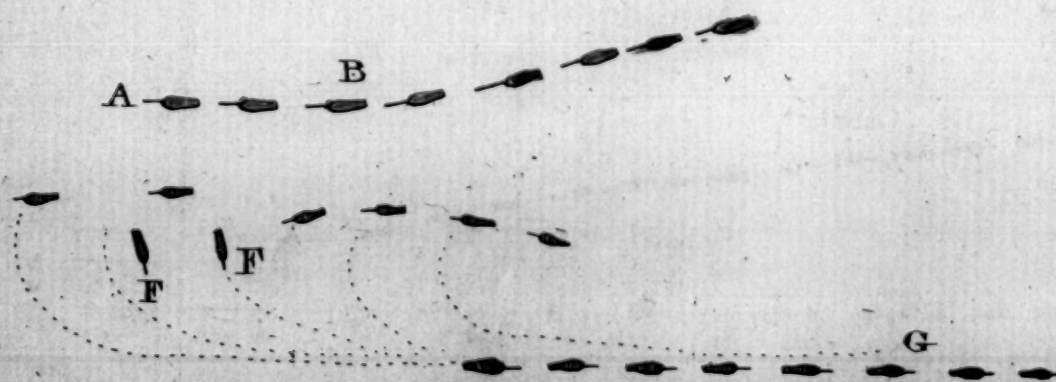
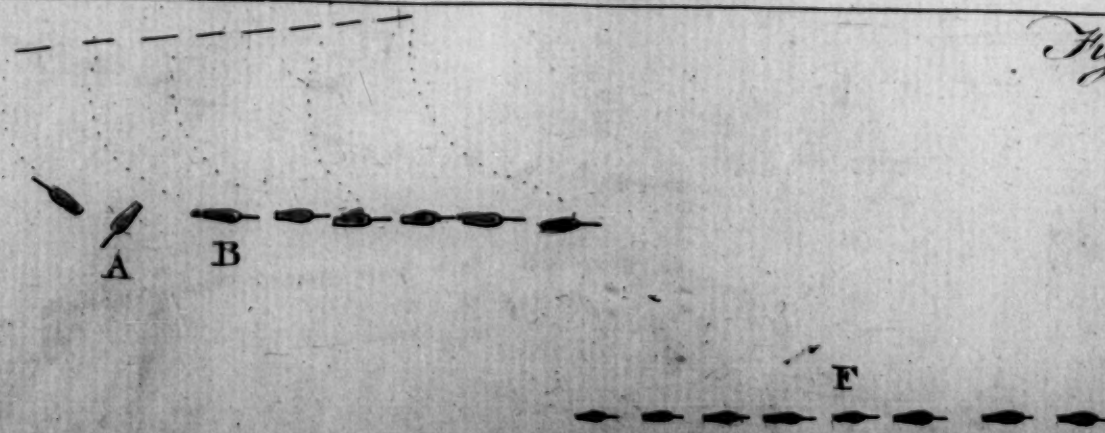
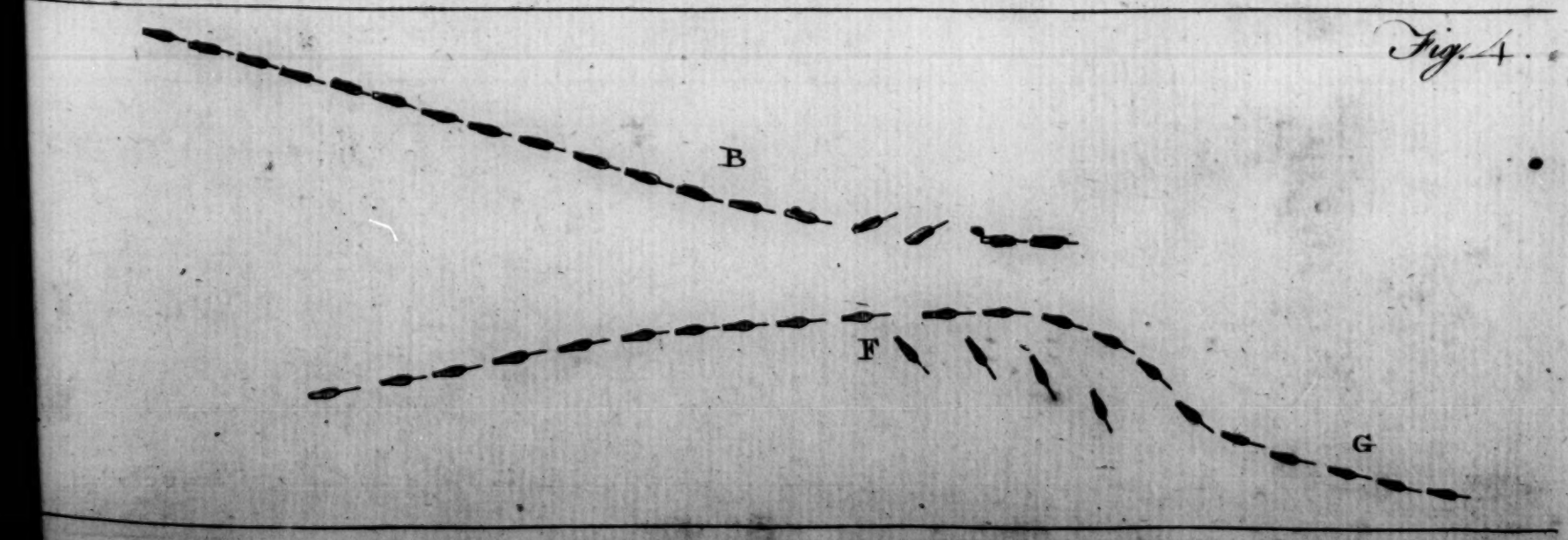
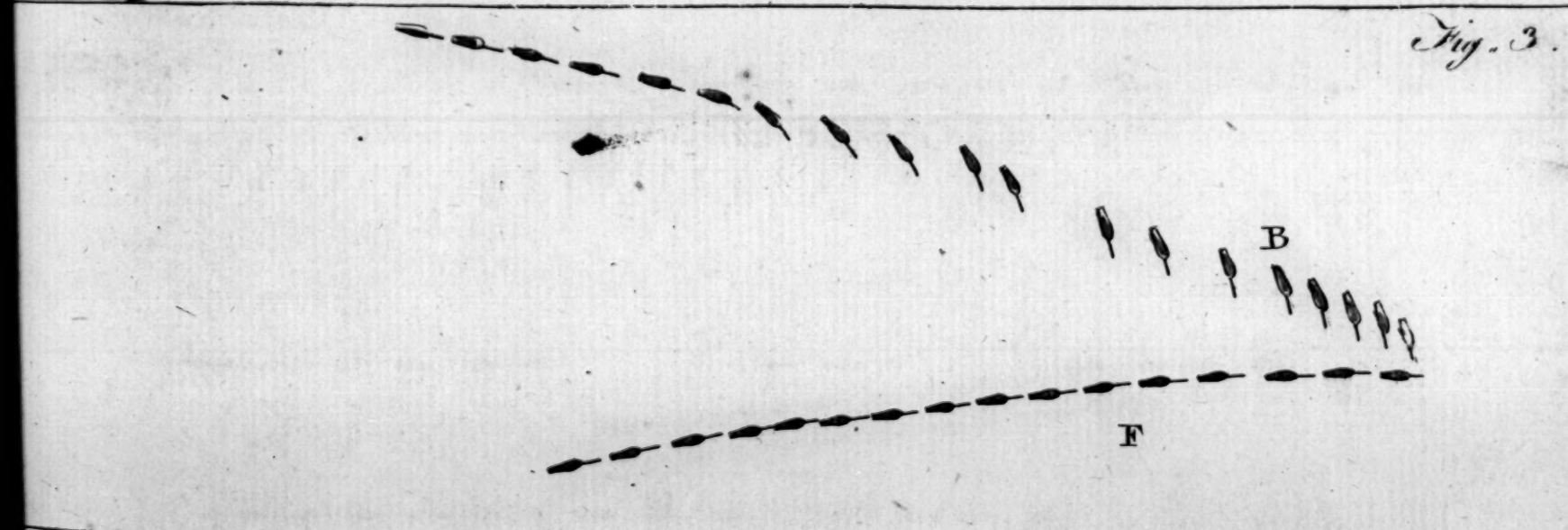
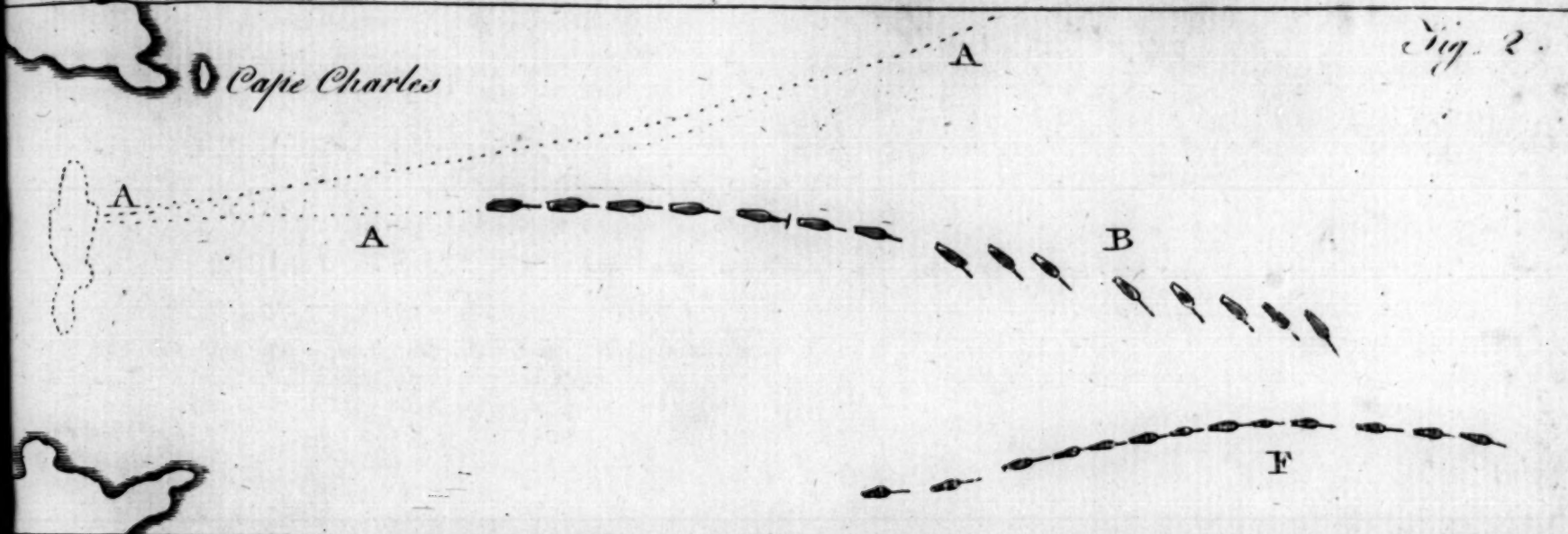
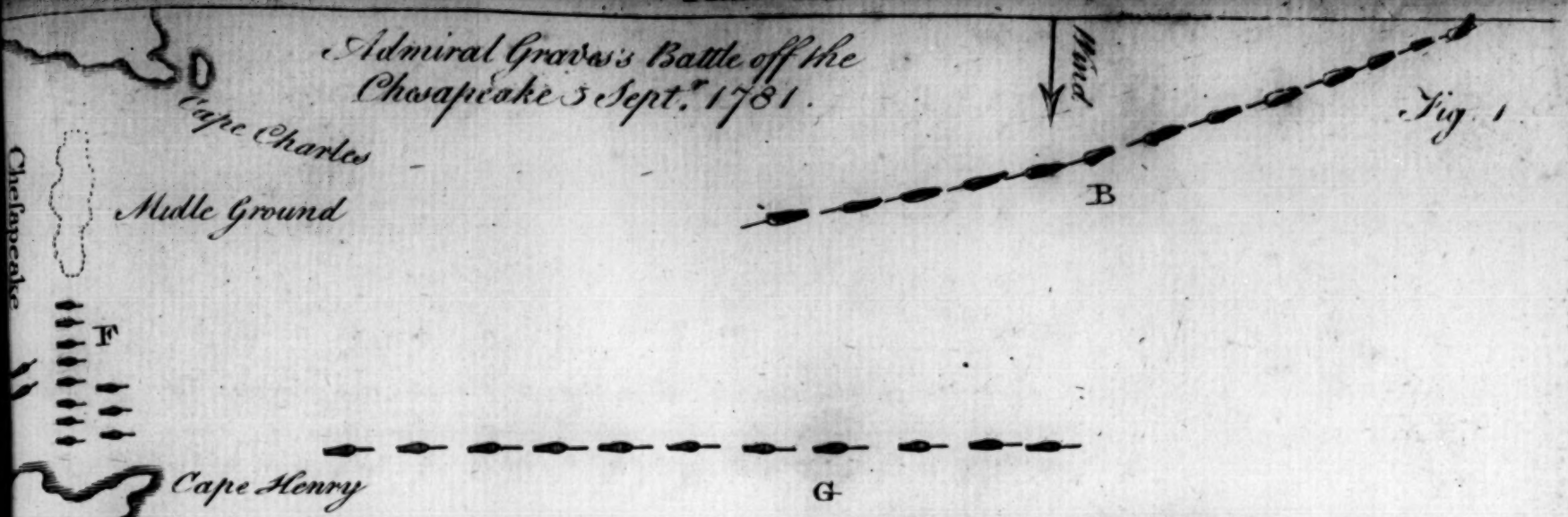


Fig. 5.



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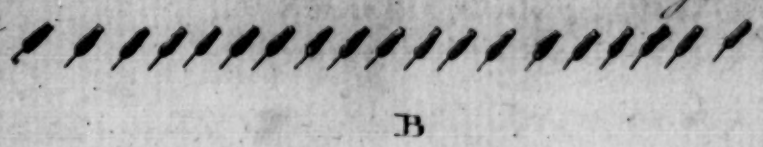
Admiral Groves's Battle off the
Chesapeake 3 Sept. 1781.



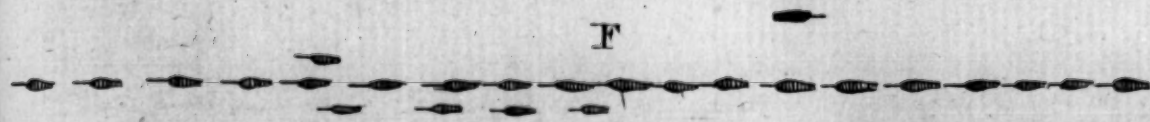
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Sir Geo. Brydges Rodney off the West
end of Martinico 17 April 1780.

Fig. 1.



B

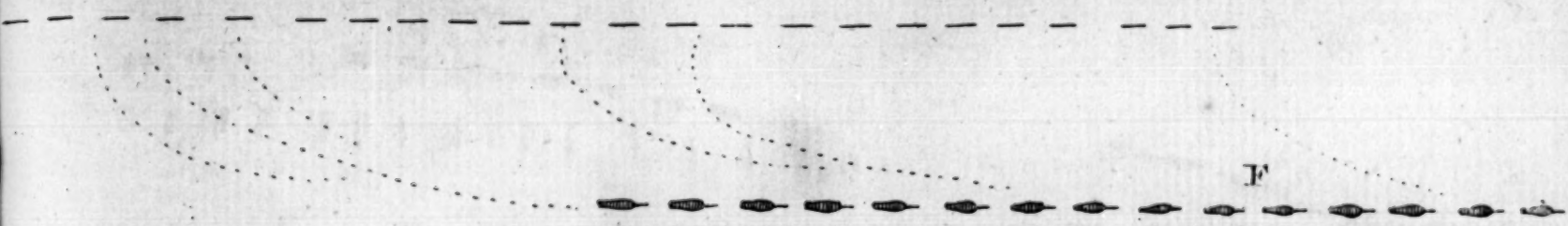


F



B

Fig. 2.



F



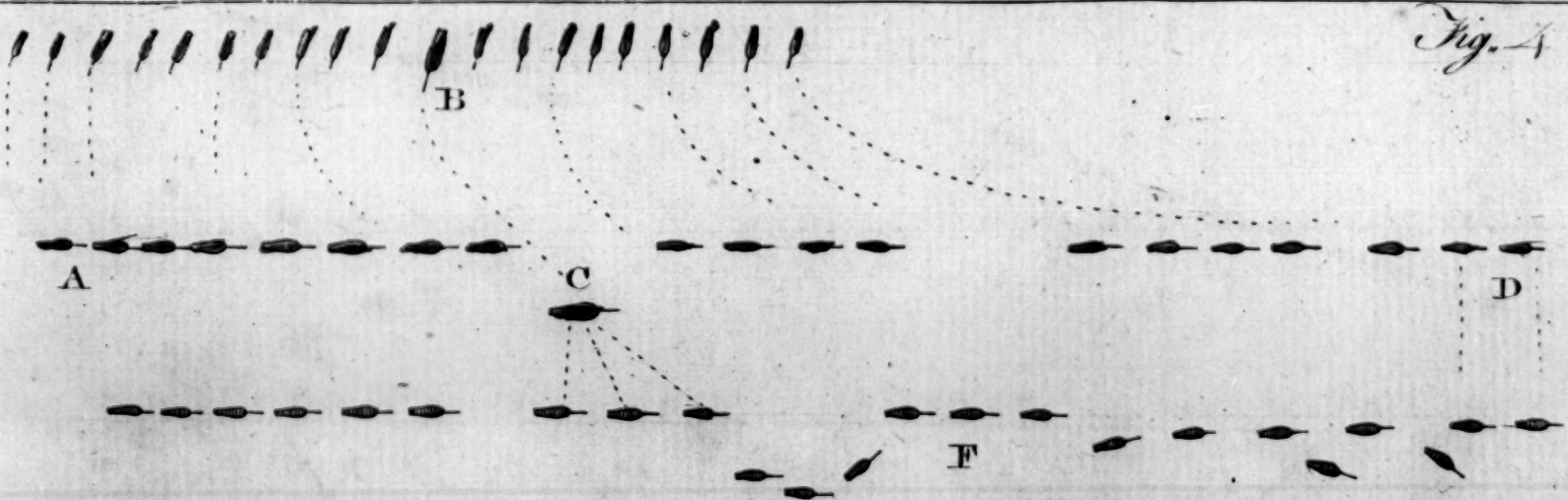
B

Fig. 3.



F

Fig. 4.



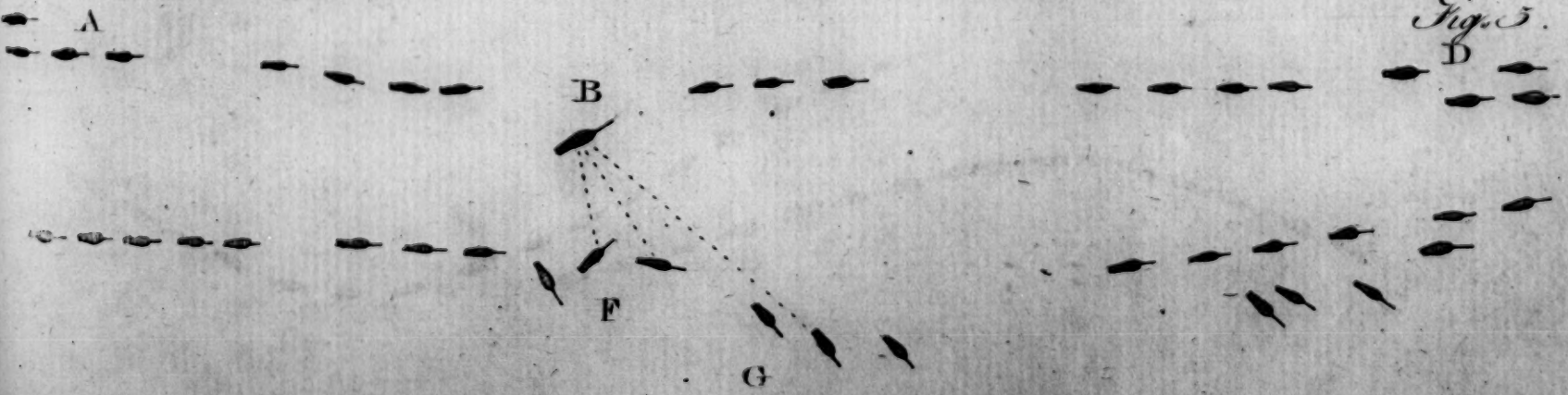
A

B

C

D

F



A

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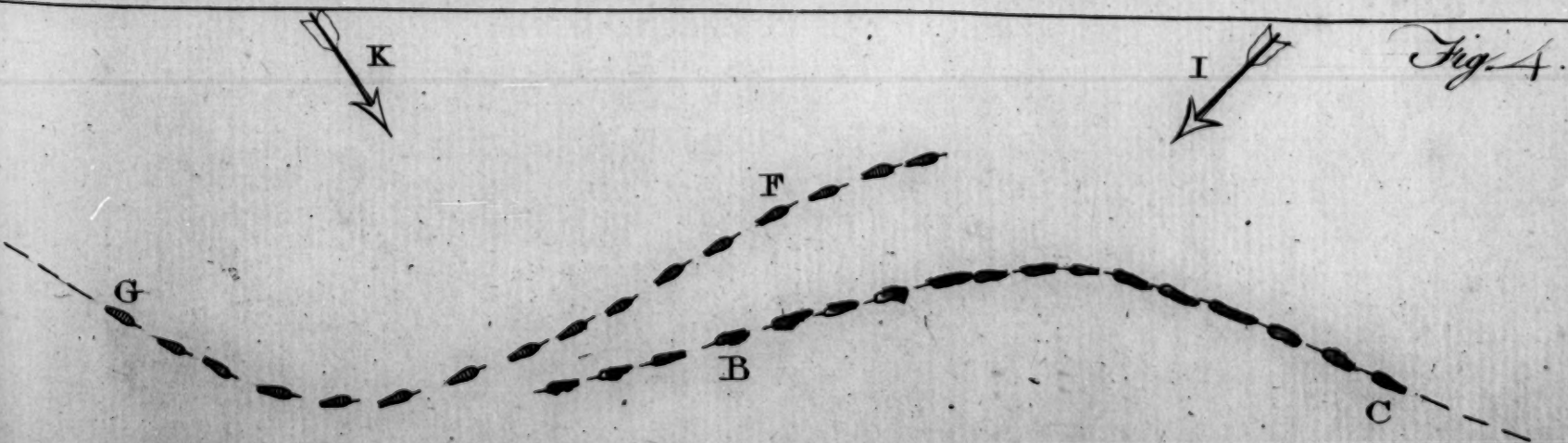
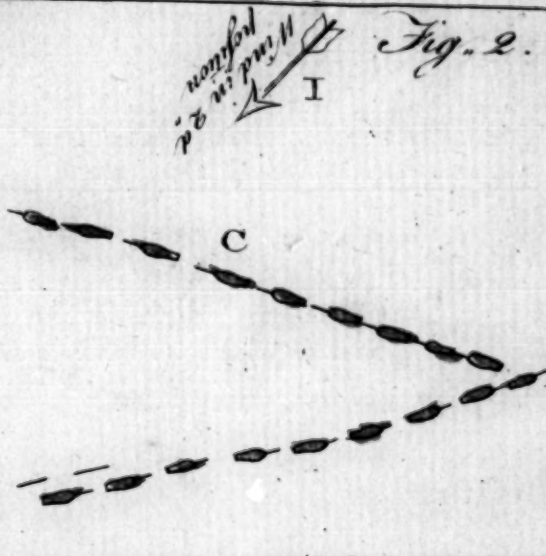
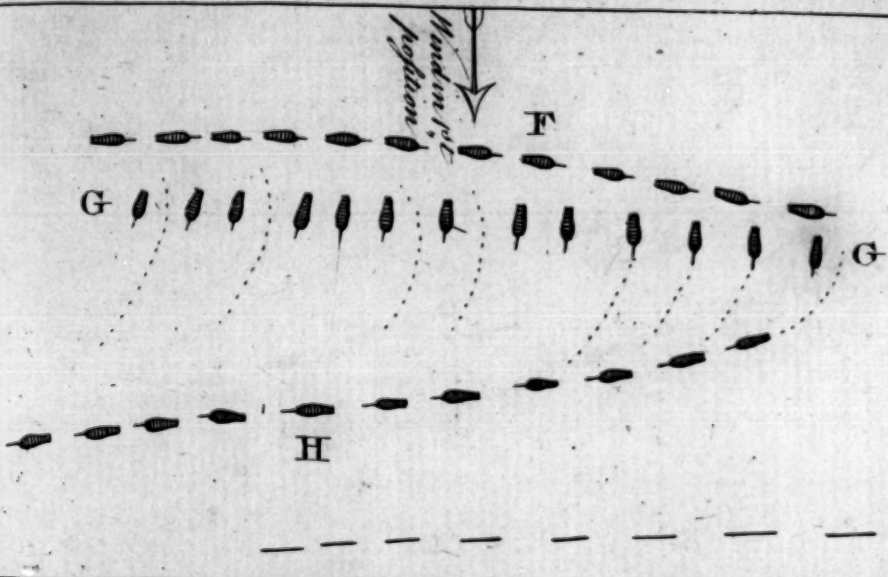
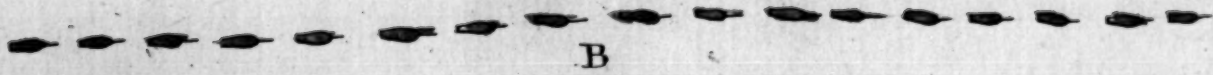
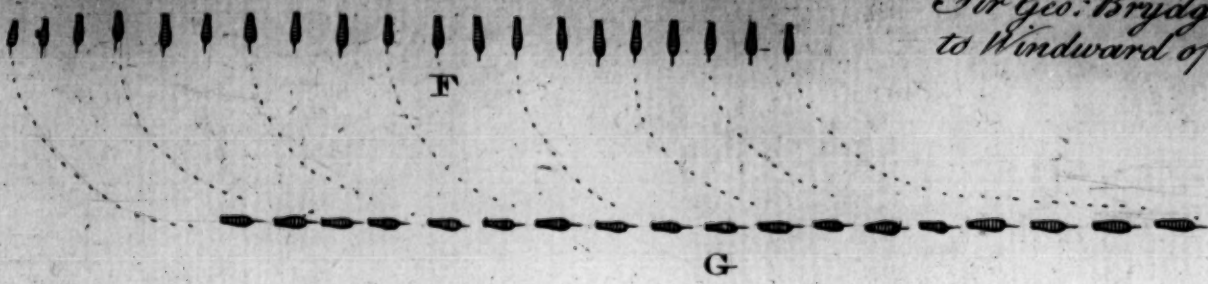
G

D

Fig. 5.

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*Sir Geo: Brydges Rodney's Rencontre
to Windward of Martinico 15 May 1780.*
Fig. 1.



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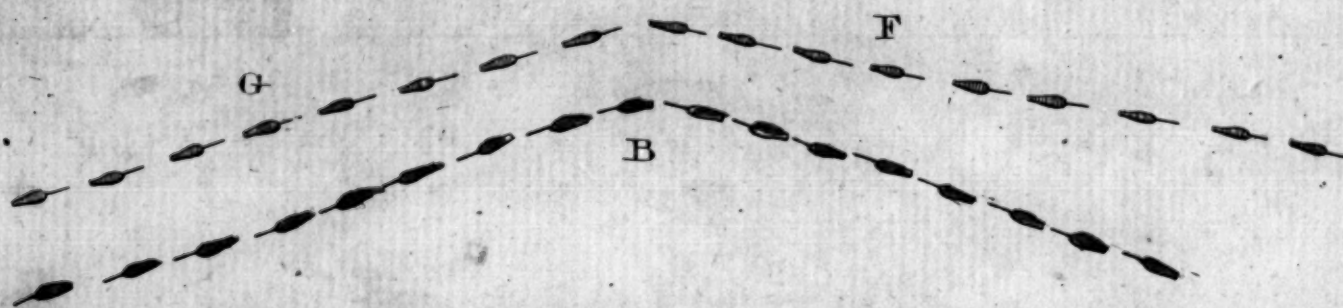
Sir Geo. Brydges Rodney's Encounter
of the 19 May 1780.



Fig. 1.



Fig. 2.



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Admiral Keppel's Battle off Ushant
27 July 1778.

Fig. 1.

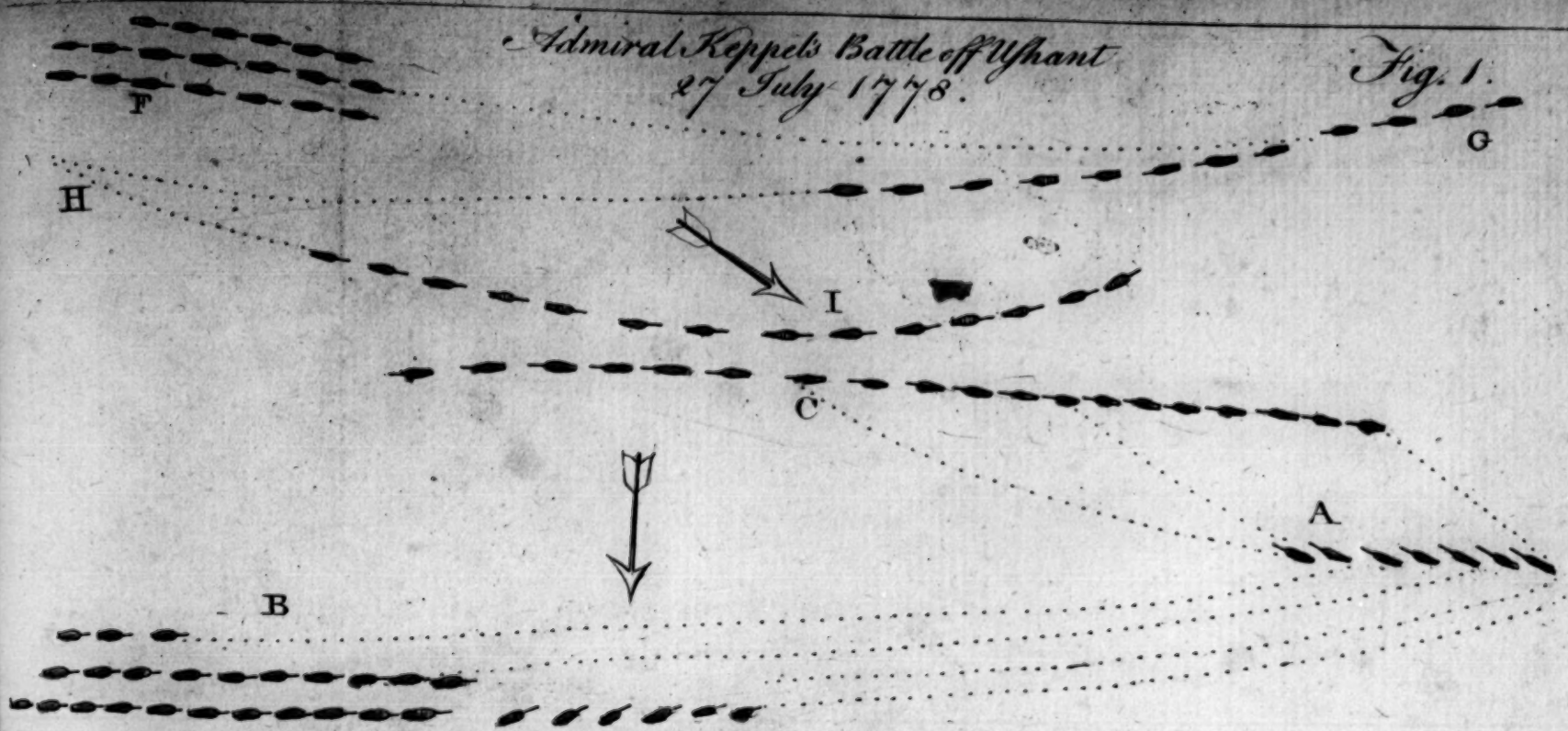


Fig. 2.

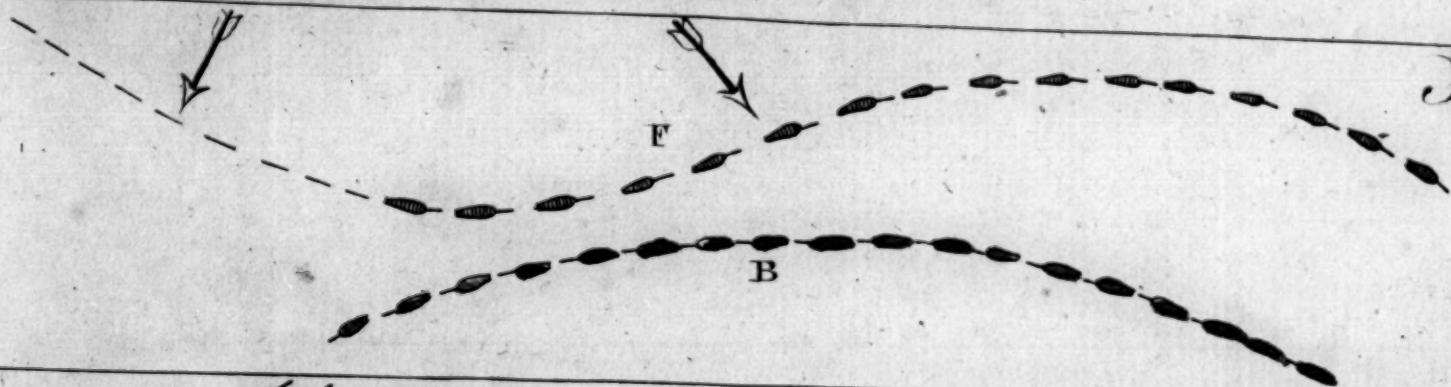


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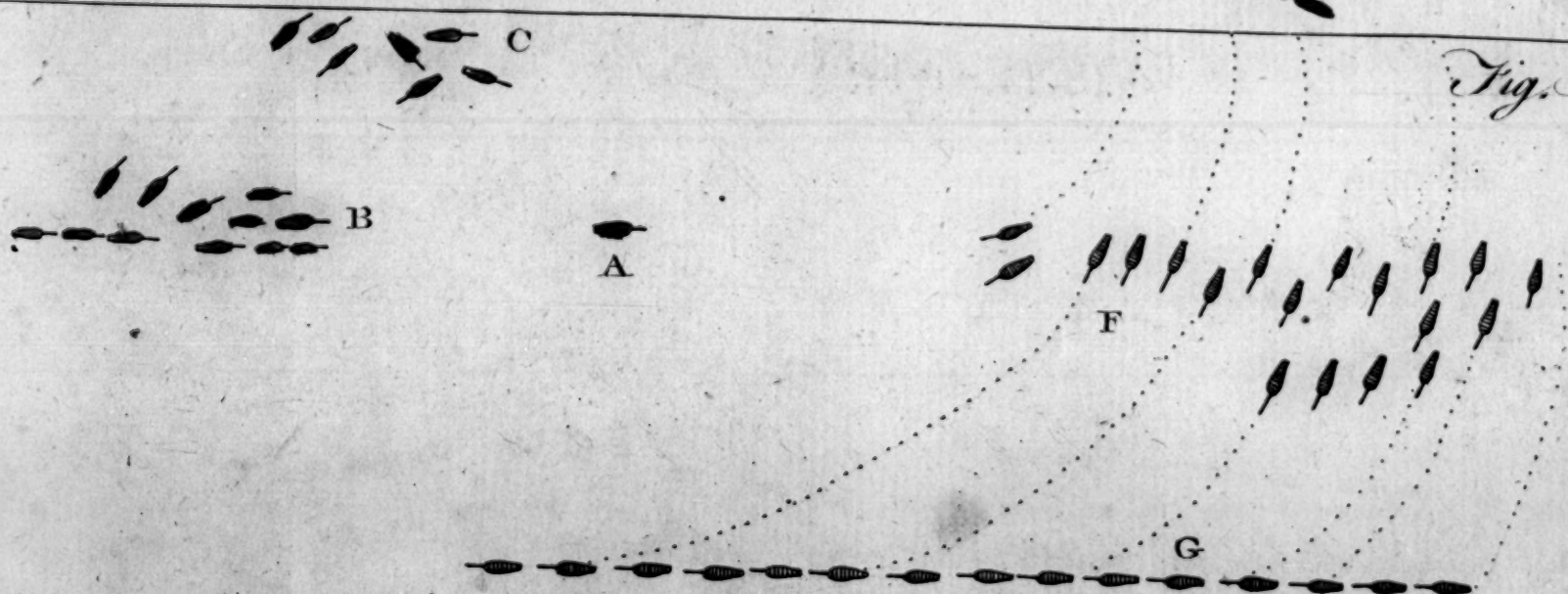
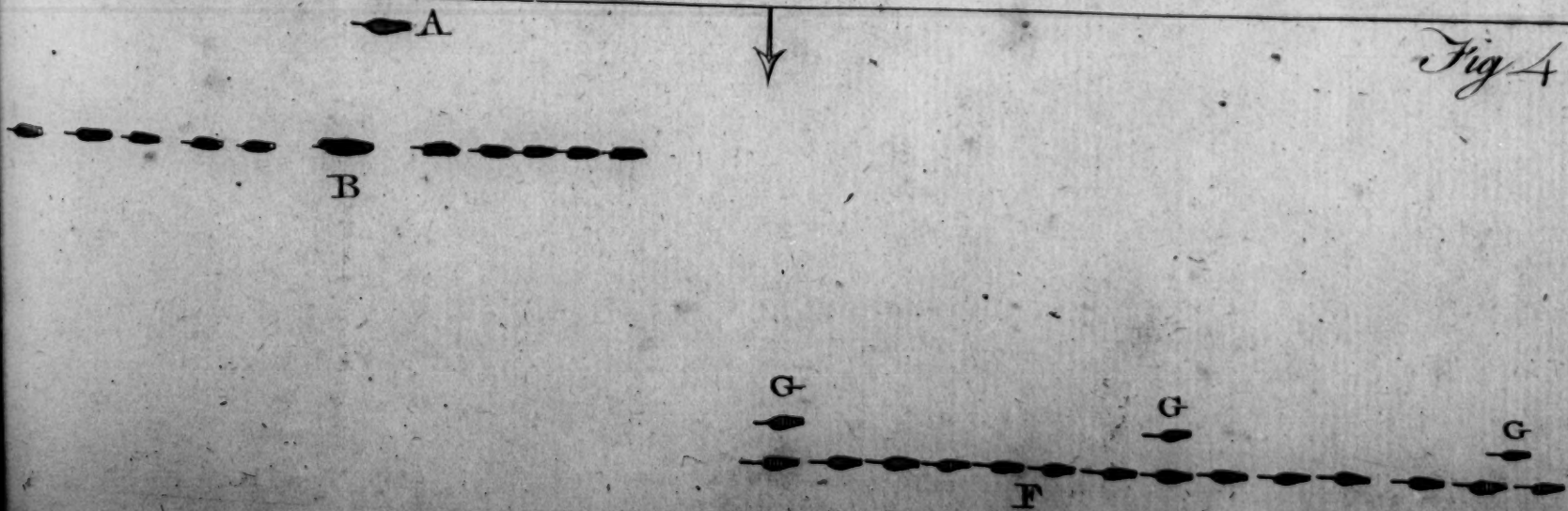


Fig. 4.



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Fig. 1.

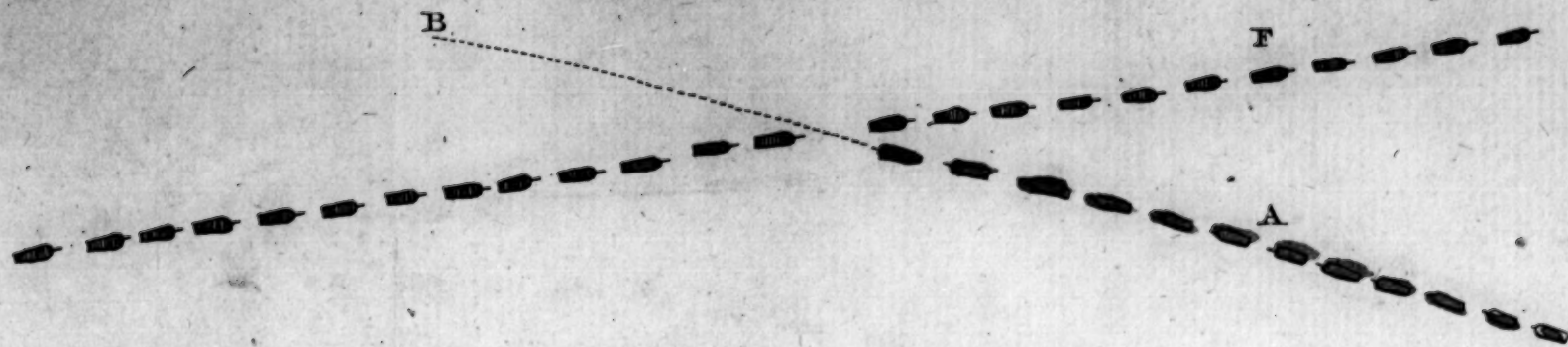


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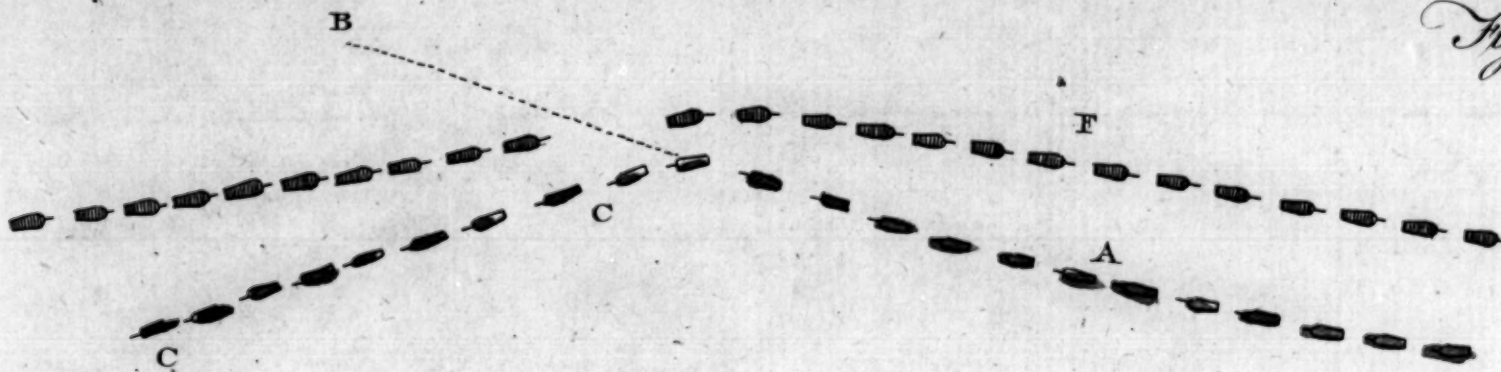


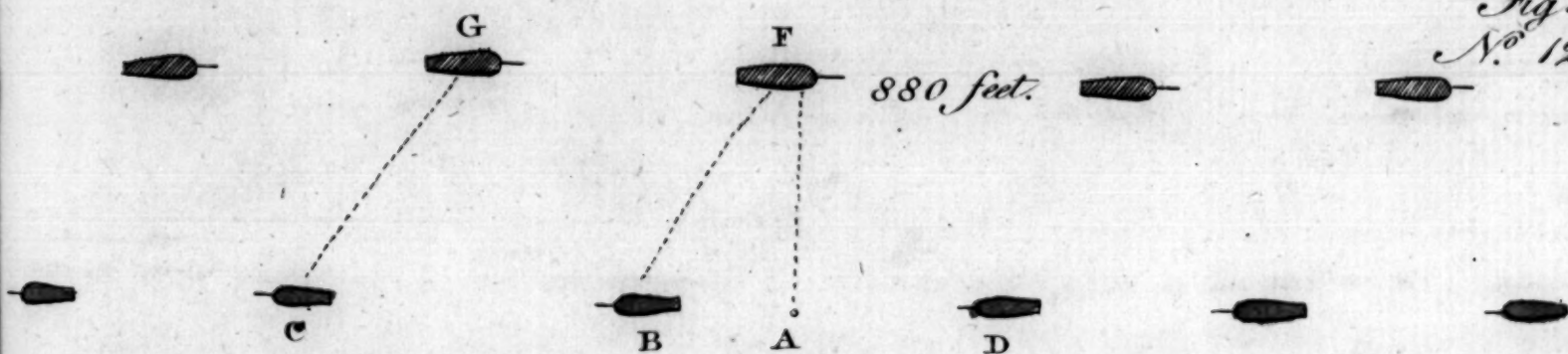
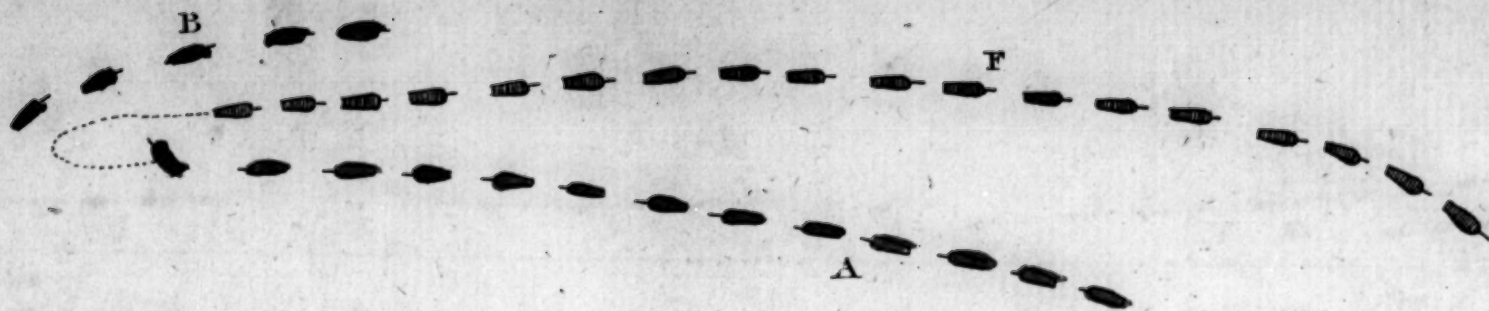
Fig. 3.



Fig. 4.



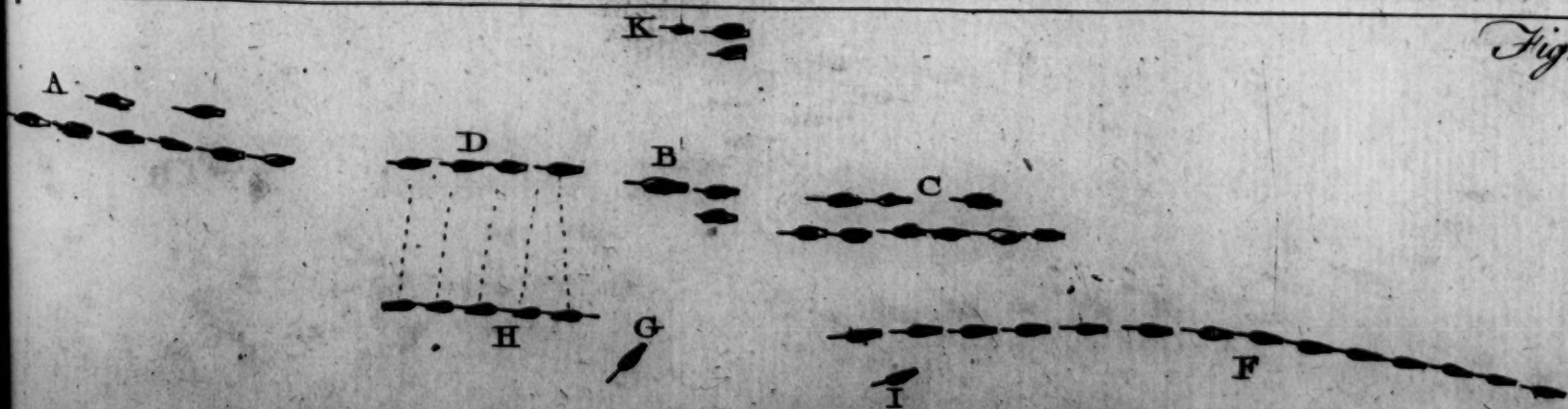
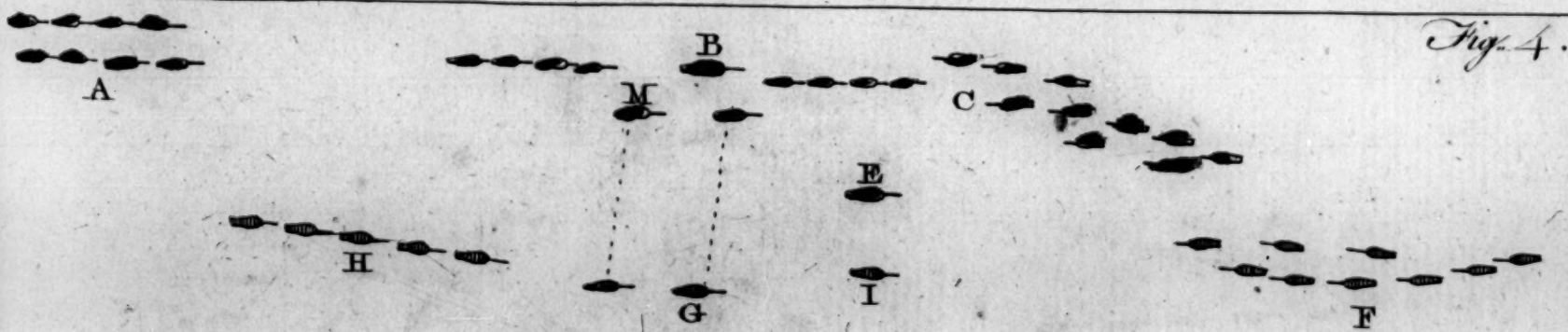
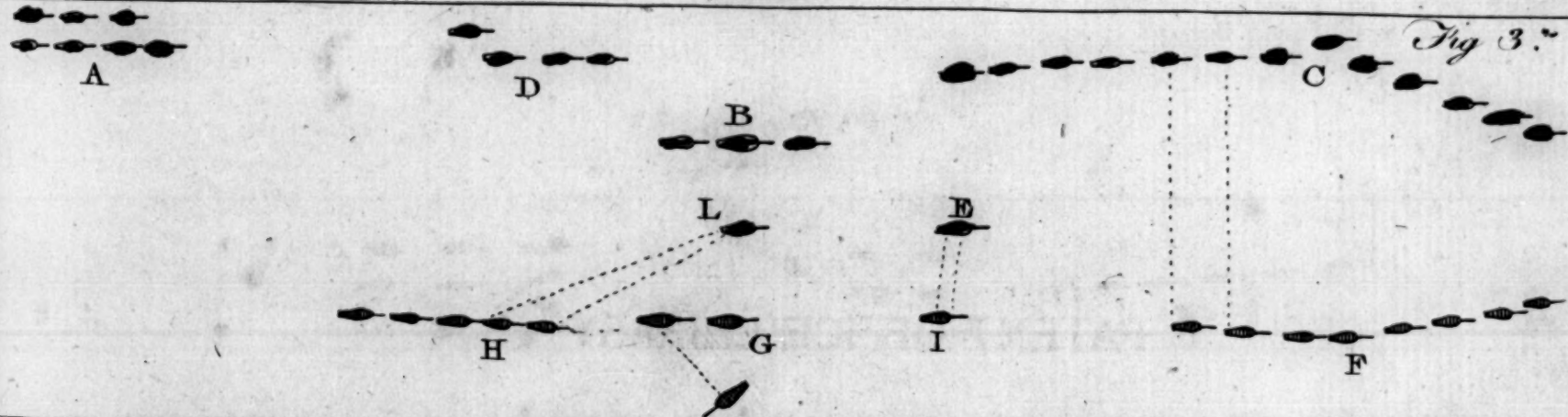
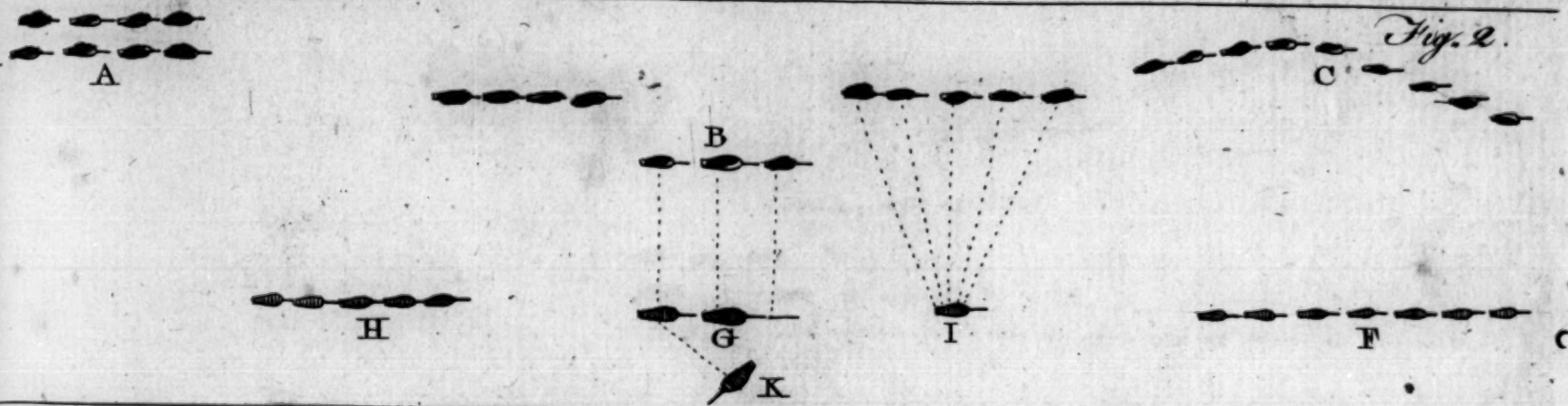
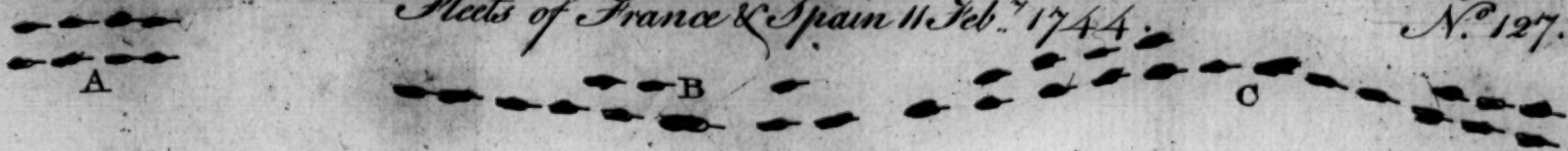
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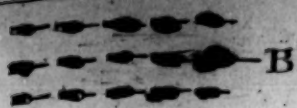
*Engagement of Admiral Matheux with the combined
Fleets of France & Spain 11 Feb. 1744.*

*Fig. 1.
N. 127.*

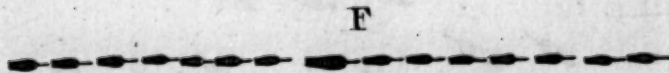


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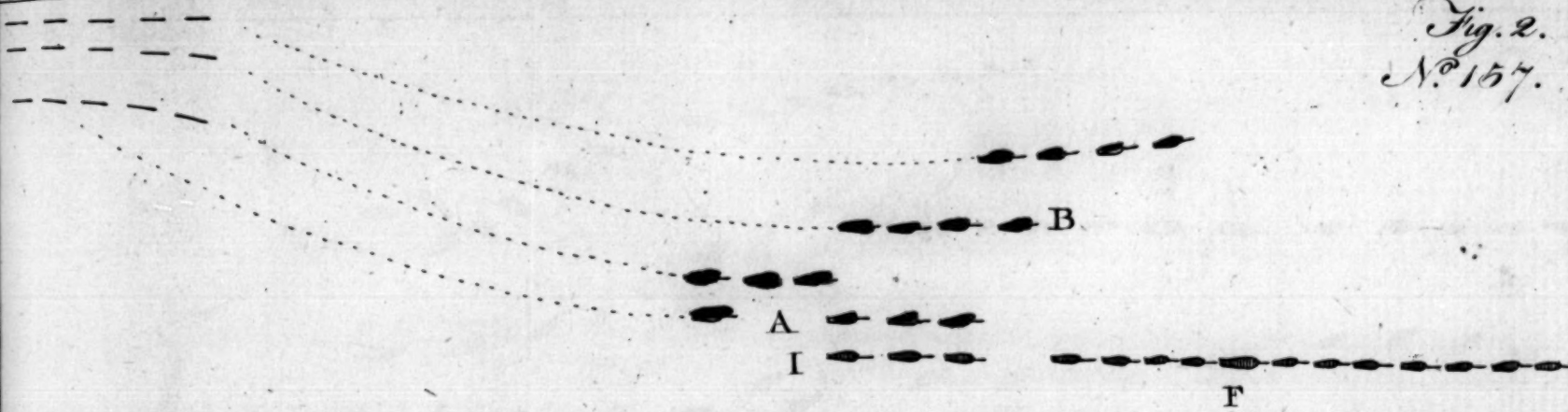
Mode of Attack proposed.



*Fig. 1.
N^o 156.*



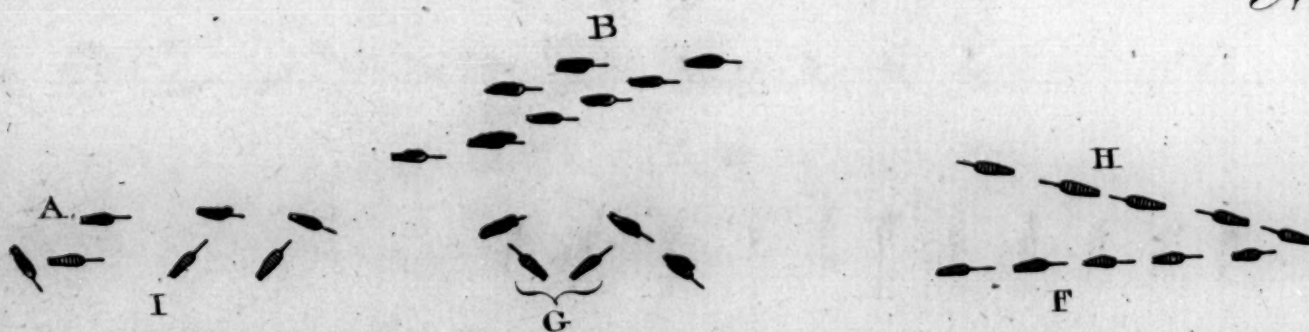
*Fig. 2.
N^o 157.*



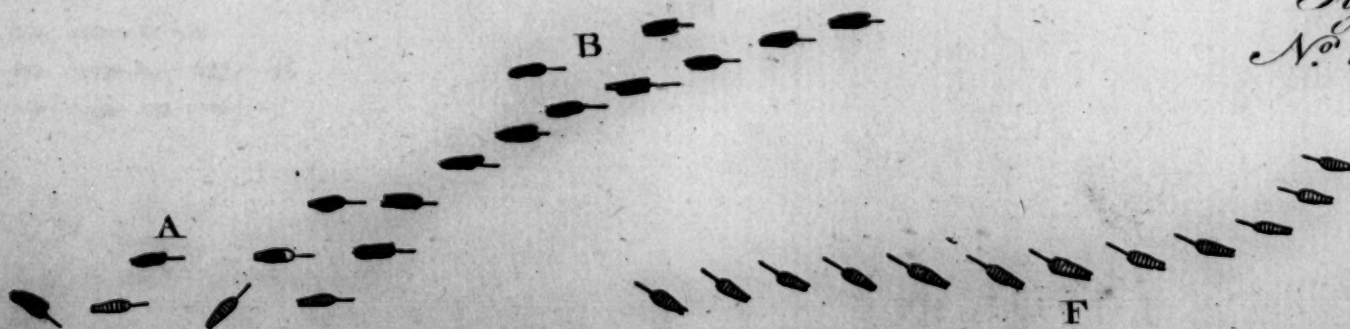
*Fig. 3.
N^o 162.*



*Fig. 4.
N^o 163.*



*Fig. 5.
N^o 164.*



PATENT OFFICE LIBRARY

Mode of Attack proposed.

Fig. 6.
N^o 166.

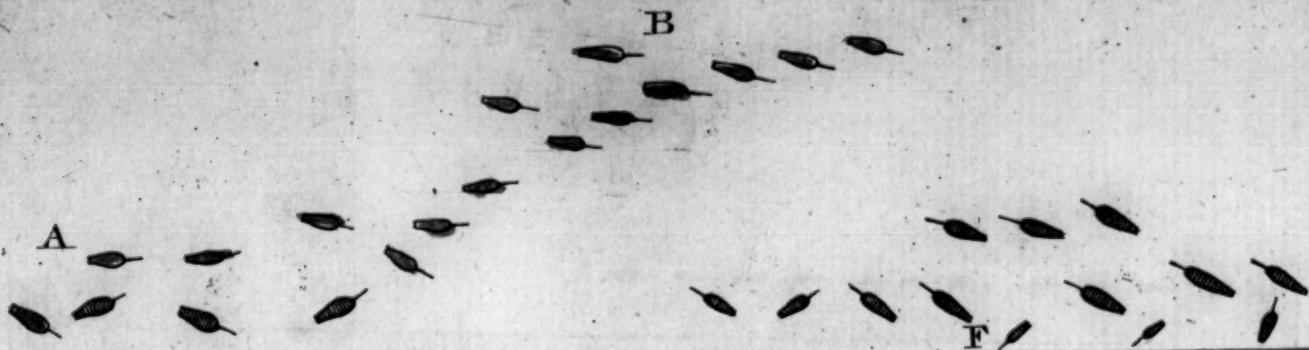


Fig. 7.
N^o 168.

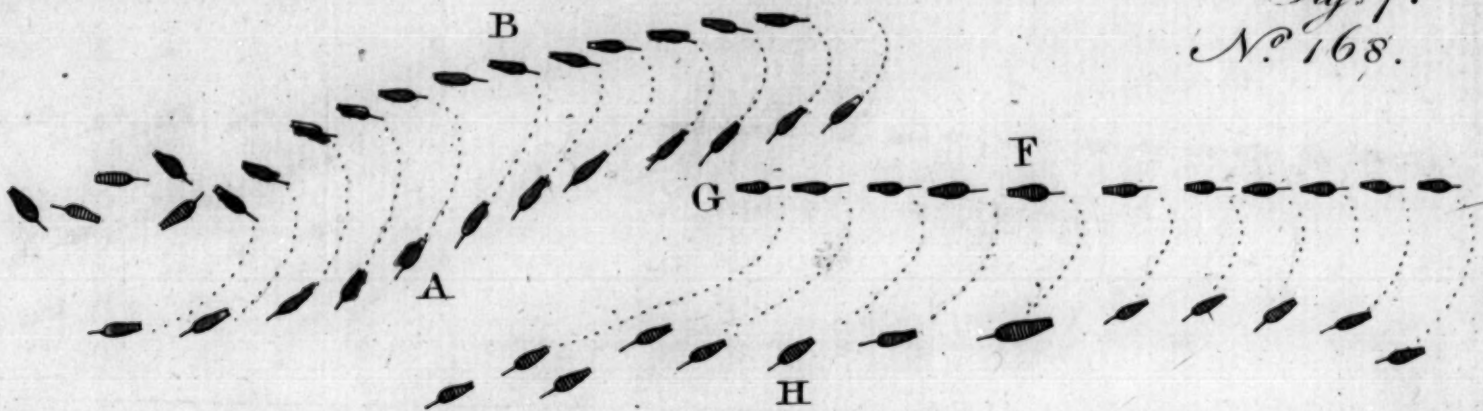


Fig. 8.
N^o 169.

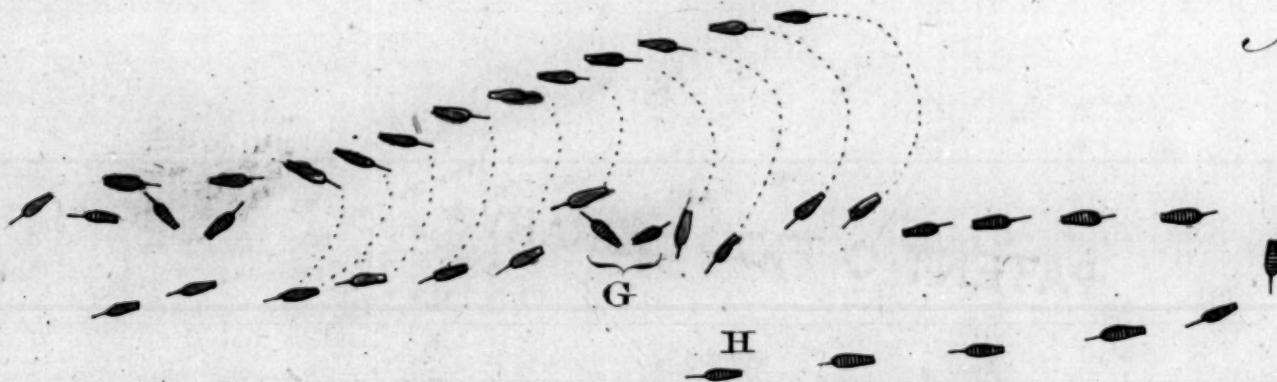


Fig. 9.
N^o 170.

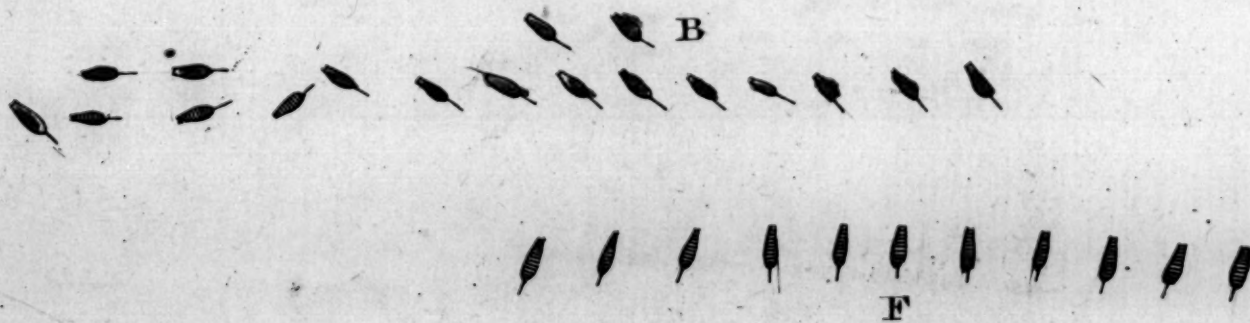


Fig. 10.
N^o 173.



PATENT OFFICE LIBRARY

Mode of Attack proposed.

Fig. 11.
N. 174.

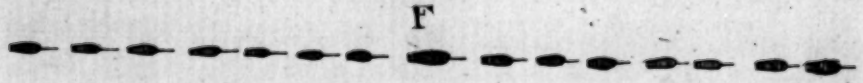
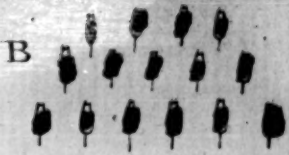


Fig. 12.
N. 174.

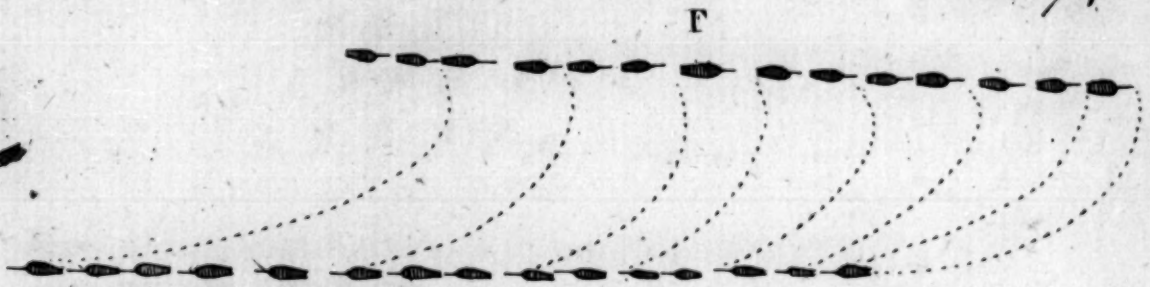


Fig. 13.
N. 176.

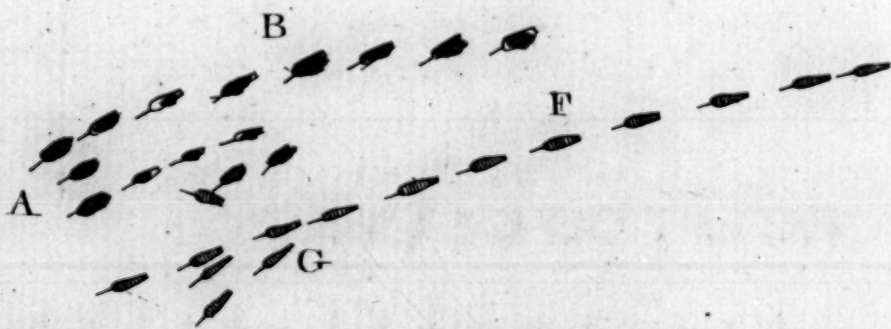


Fig. 14.
N. 178.

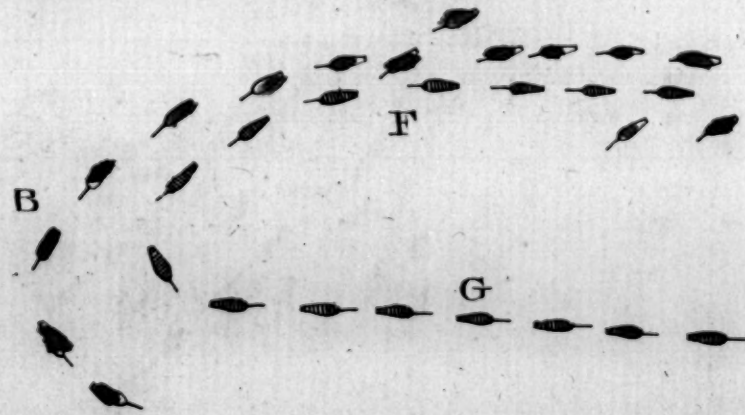
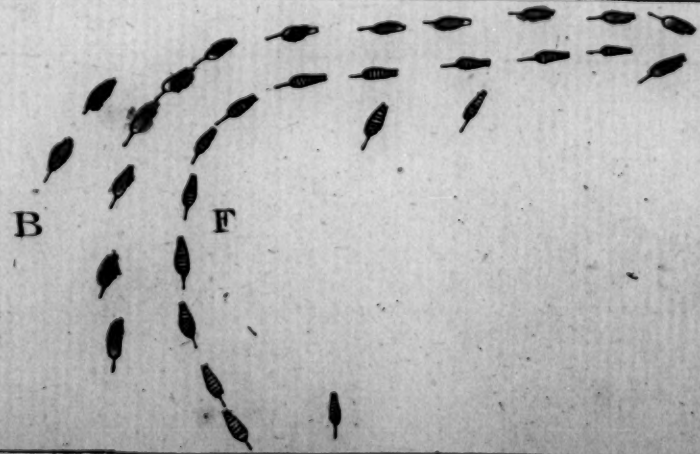


Fig. 15.



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Mode of Attack proposed.

Fig. 16.
N. 180.



Fig. 17.

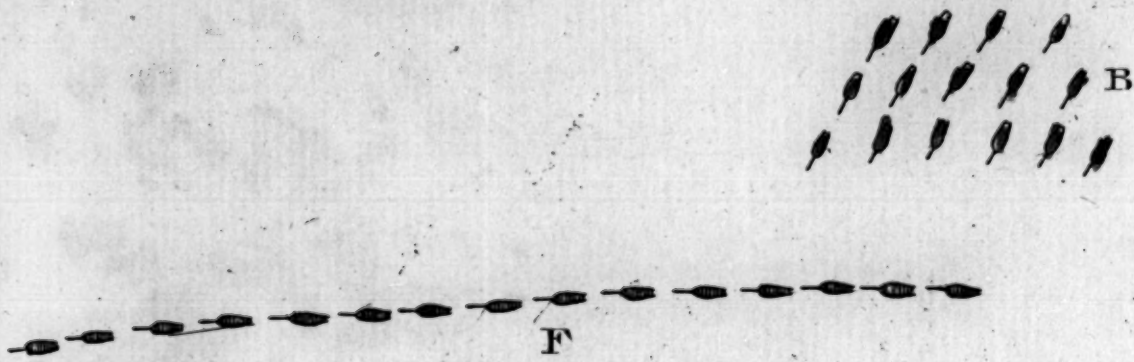


Fig. 18.

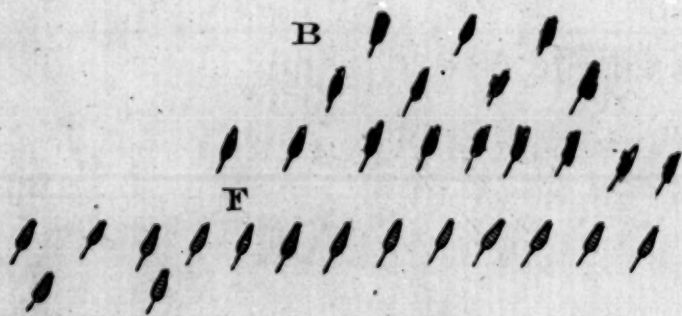
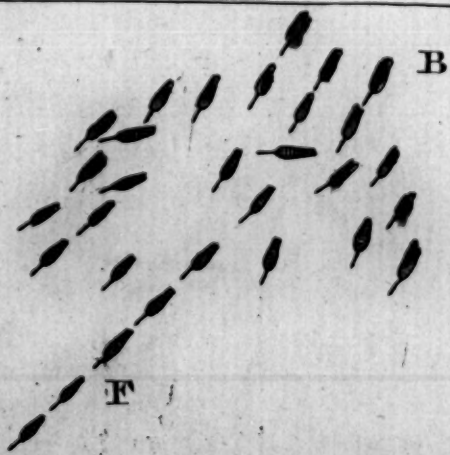
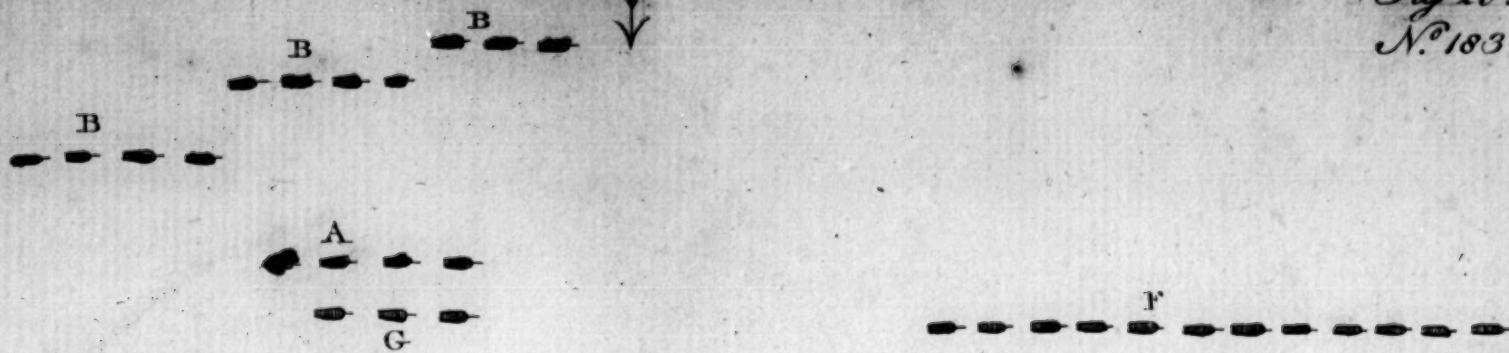


Fig. 19.



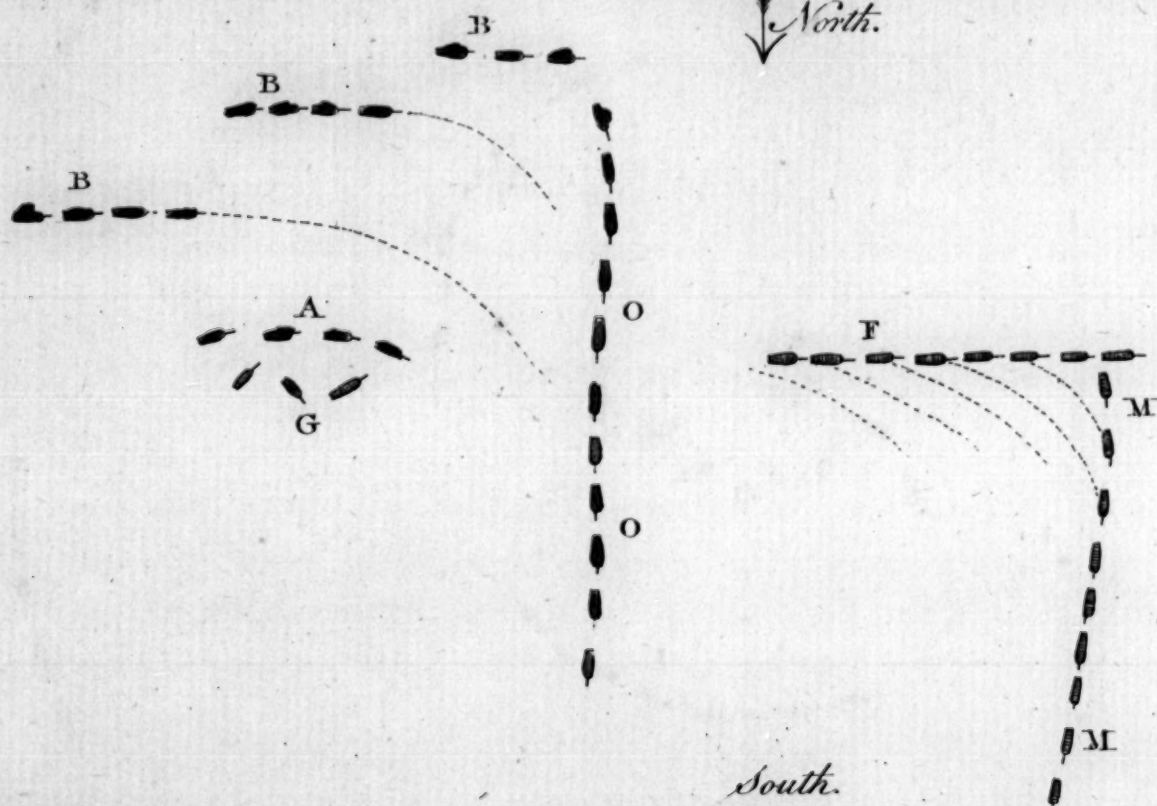
PATENT OFFICE LIBRARY

K
West



North.

West.

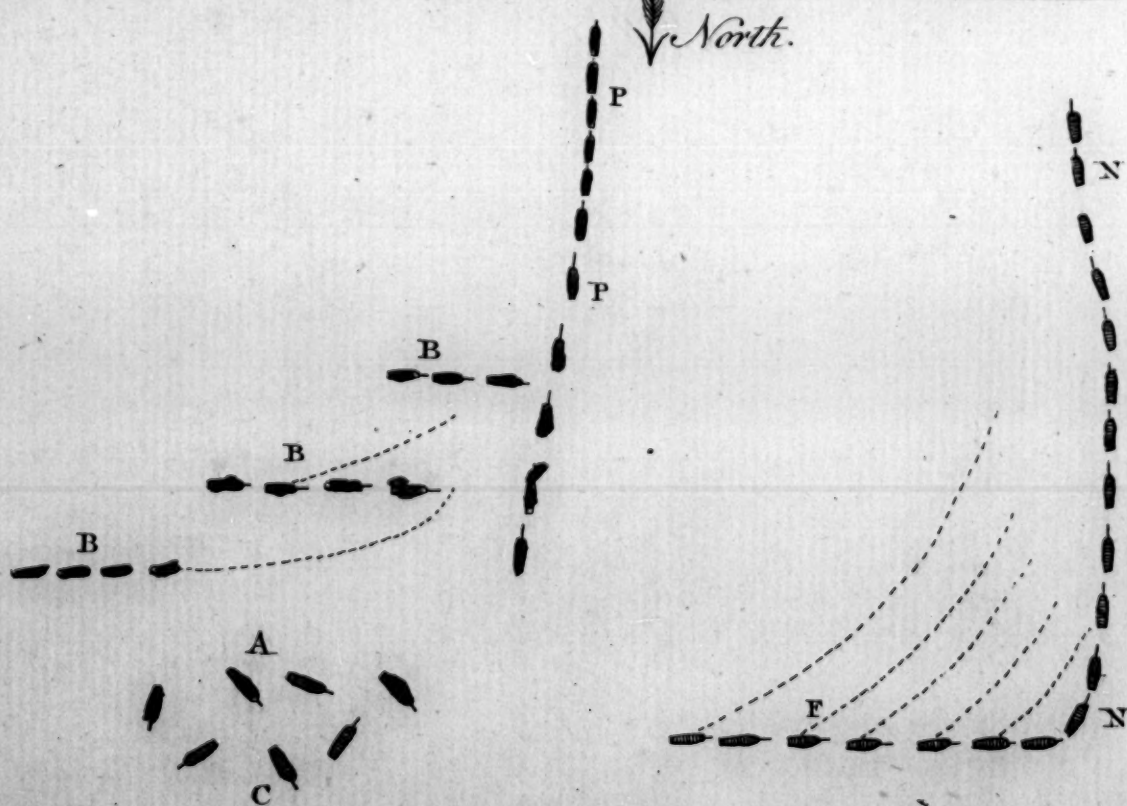


I.
East.

South.

North.

West.



East.

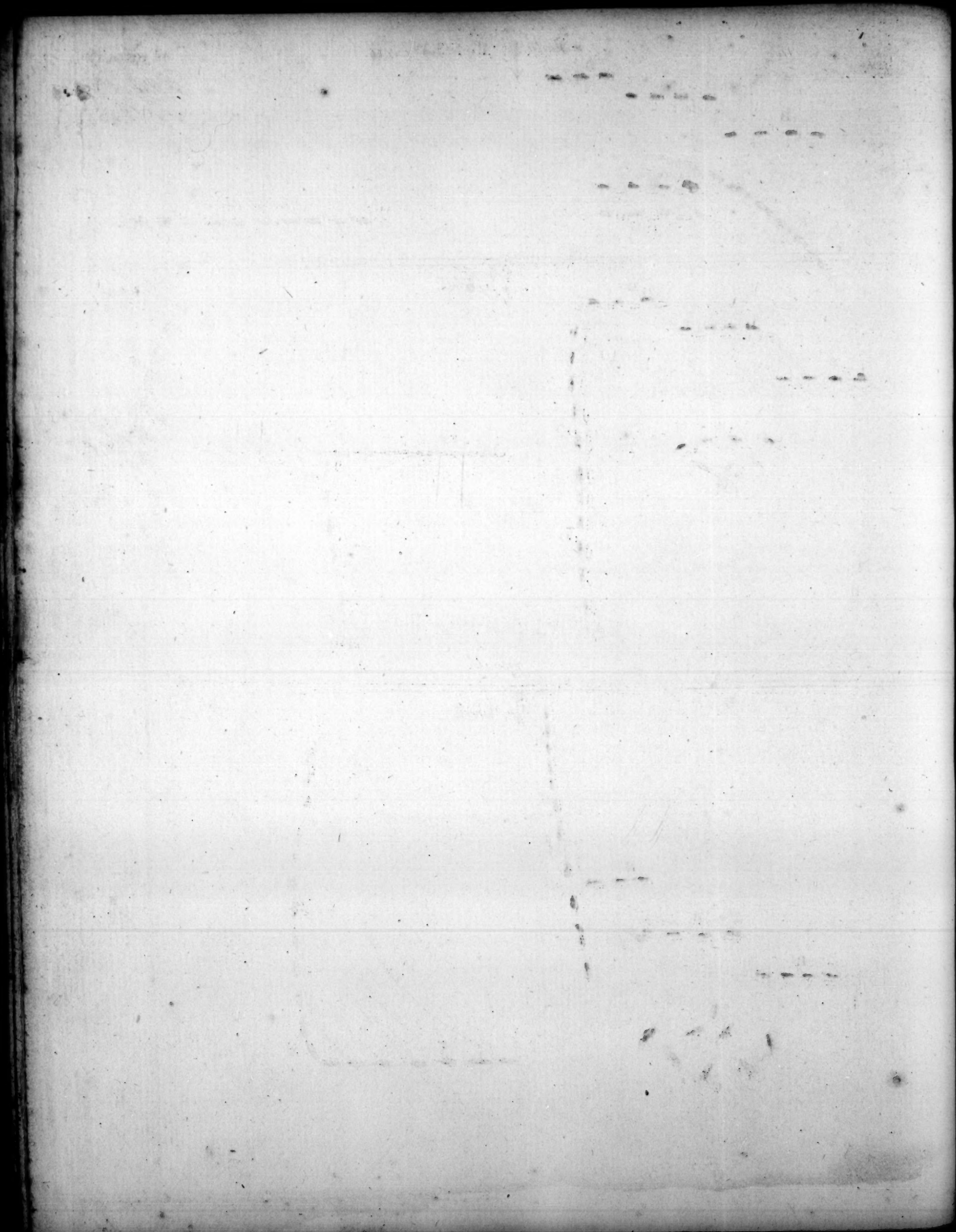
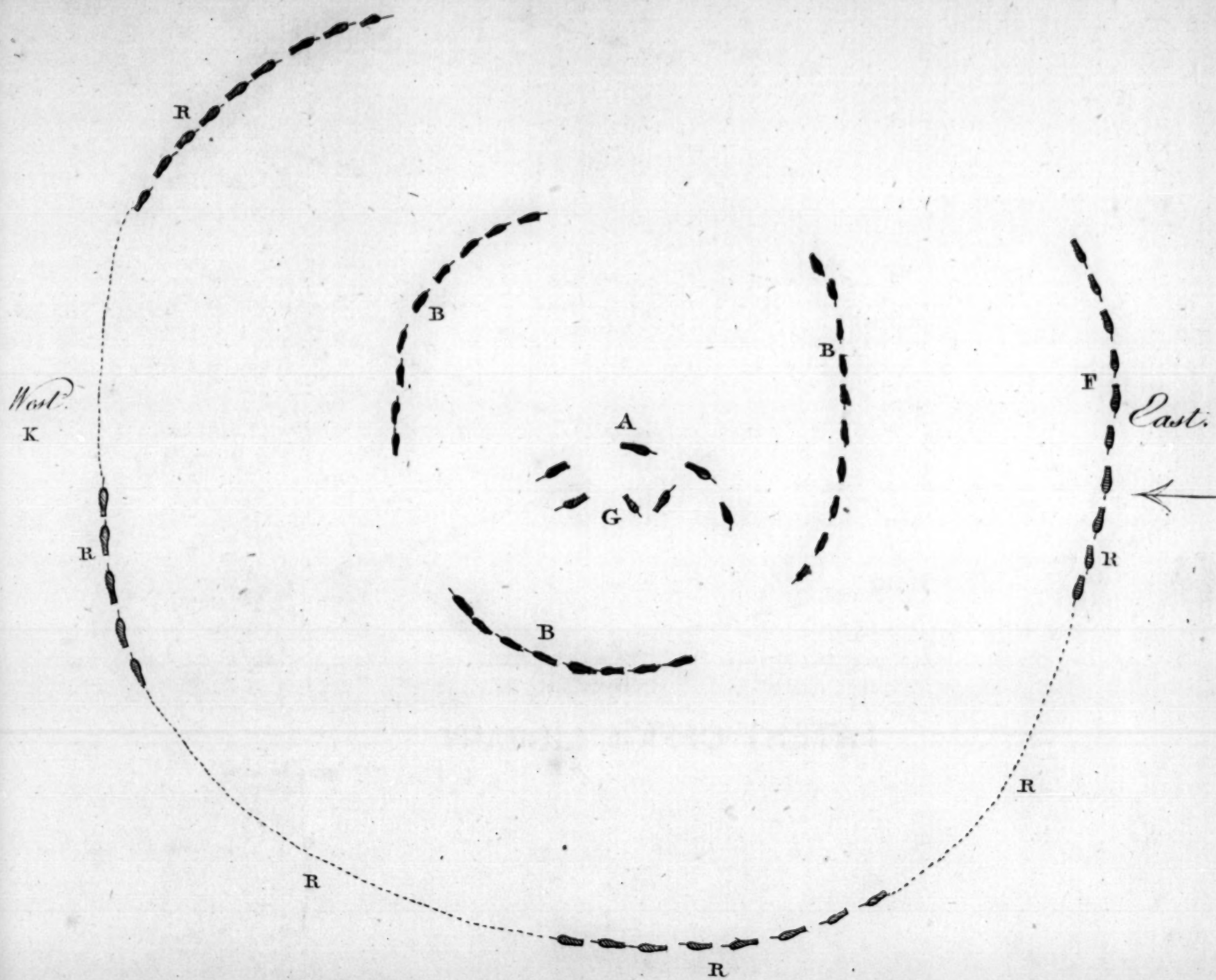
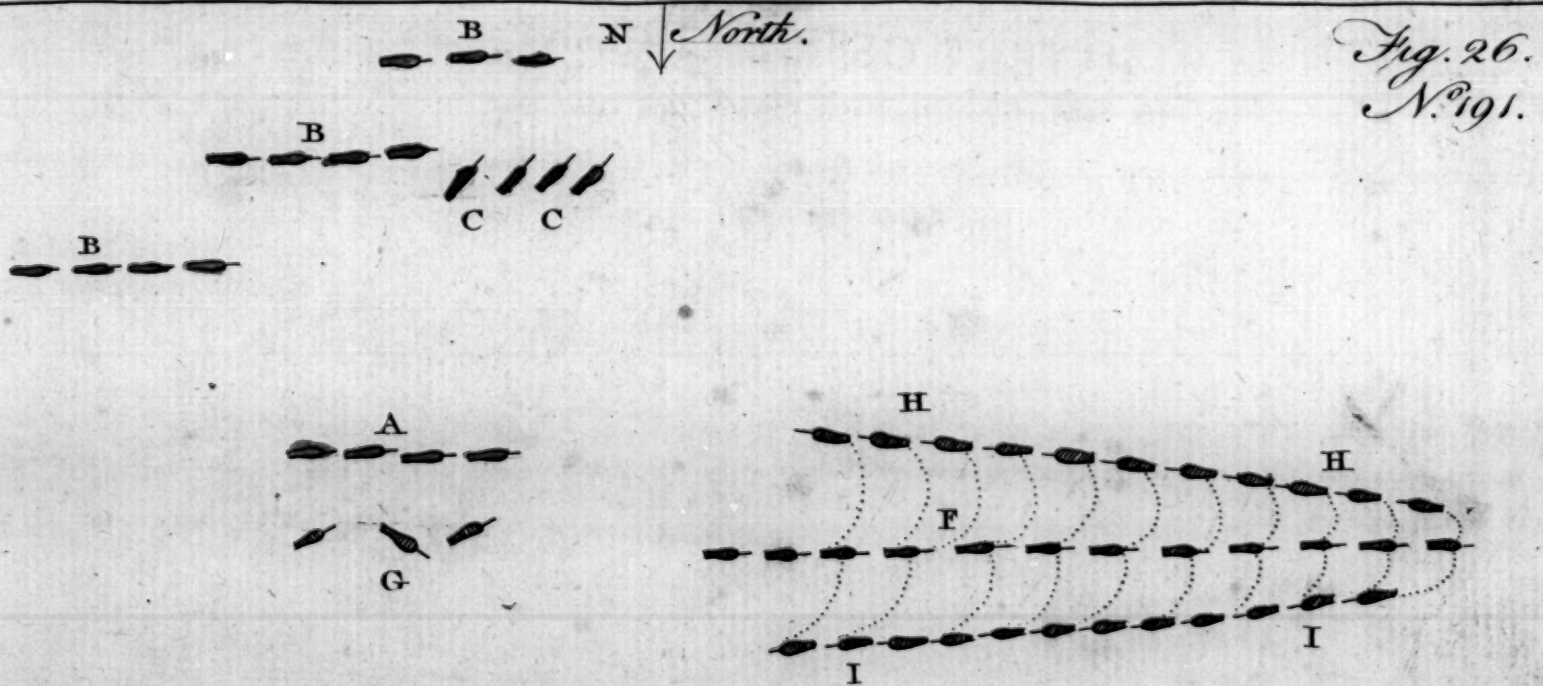
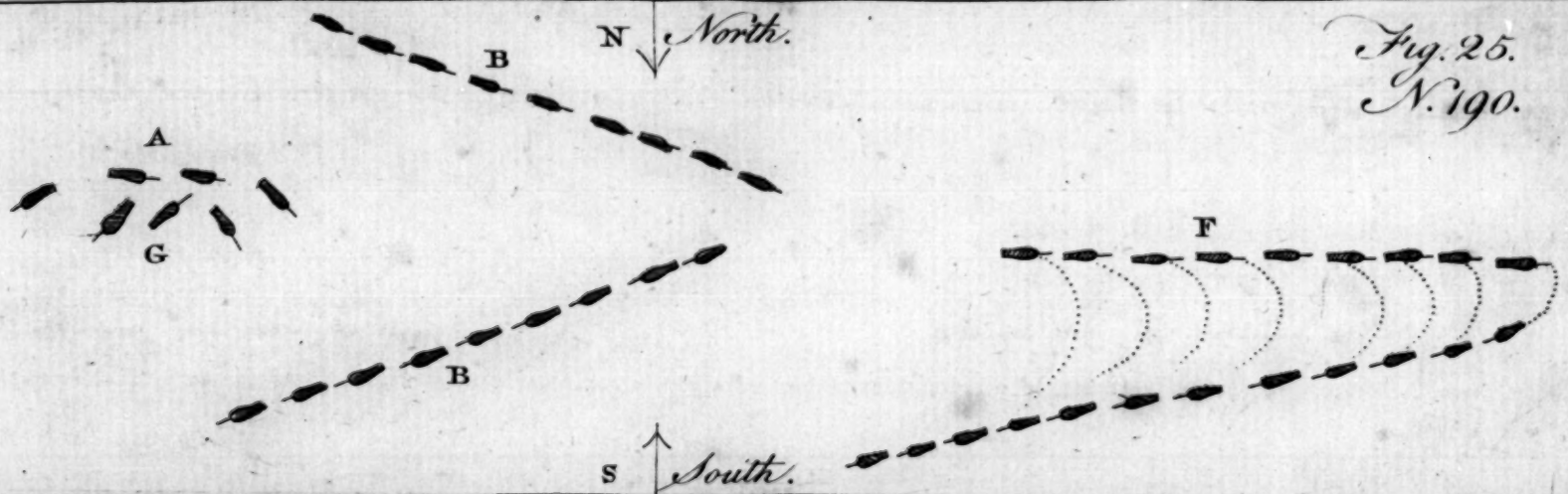
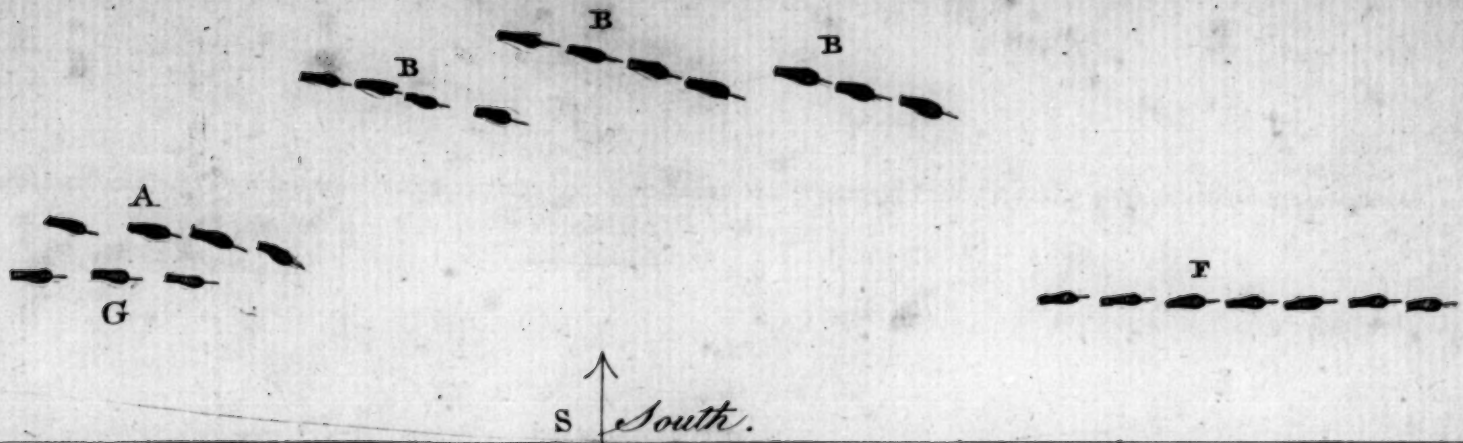




Plate XXII.
Fig. 23.
N^o 187.



PATENT OFFICE LIBRARY



PATENT OFFICE LIBRARY

Fig. 1.

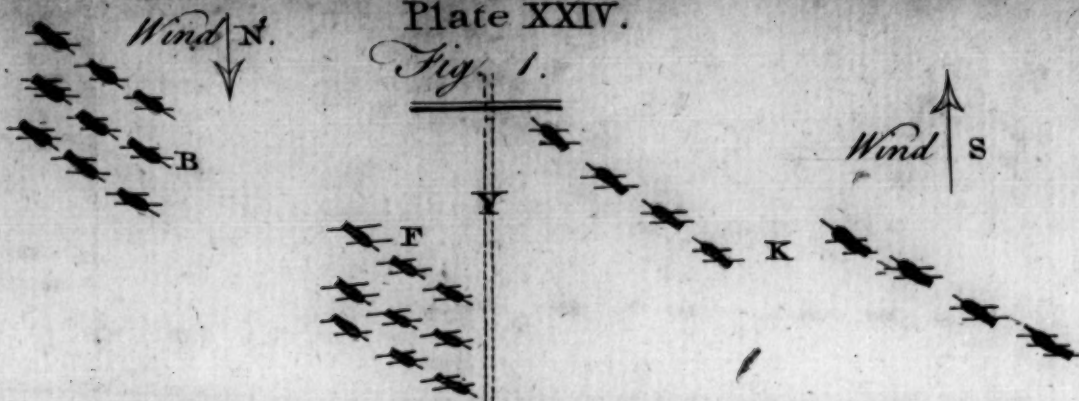


Fig. 2.

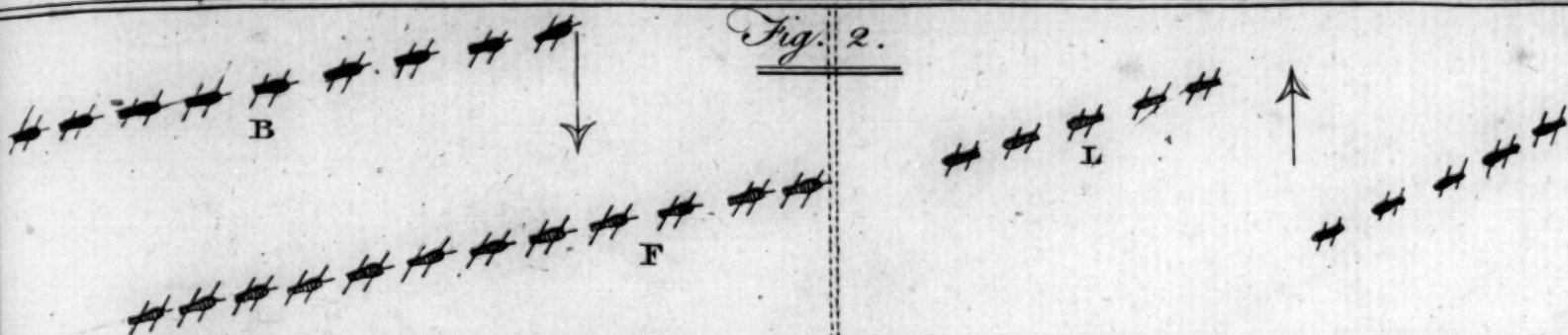


Fig. 3.

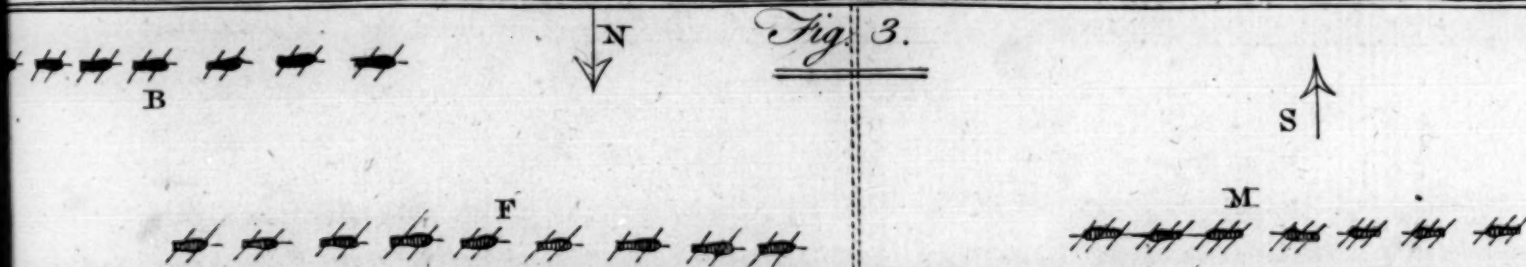
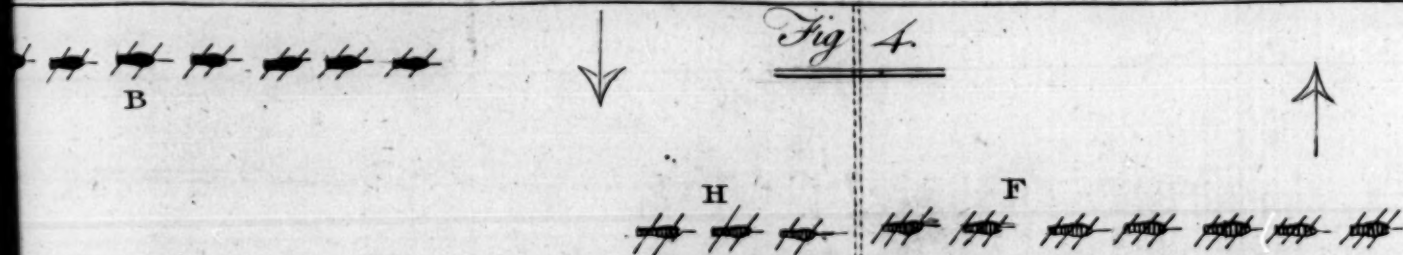
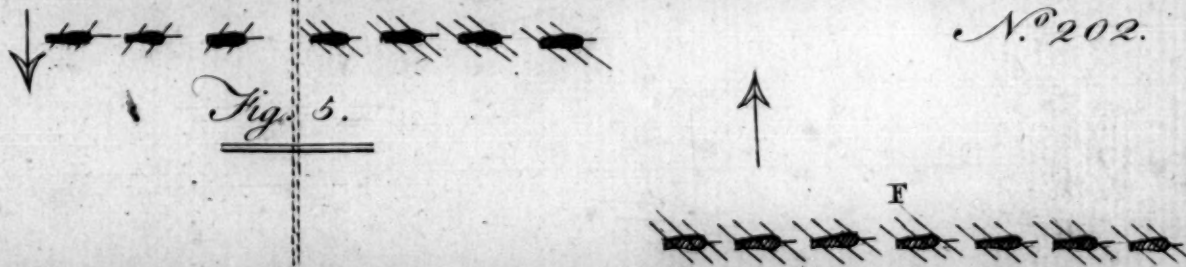


Fig. 4.



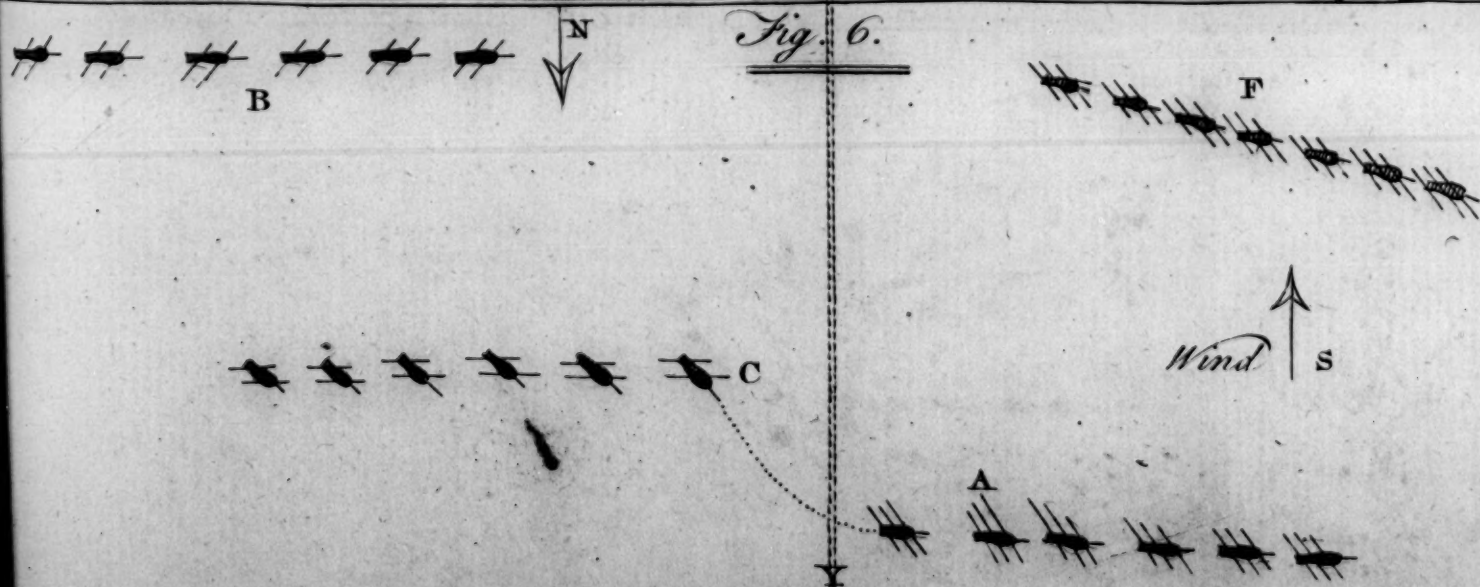
N.º 201.

Fig. 5.



N.º 202.

Fig. 6.



N.º 202.

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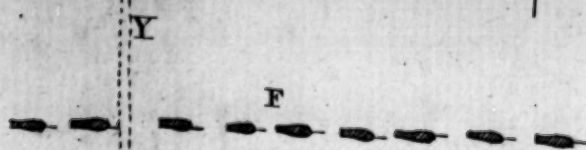
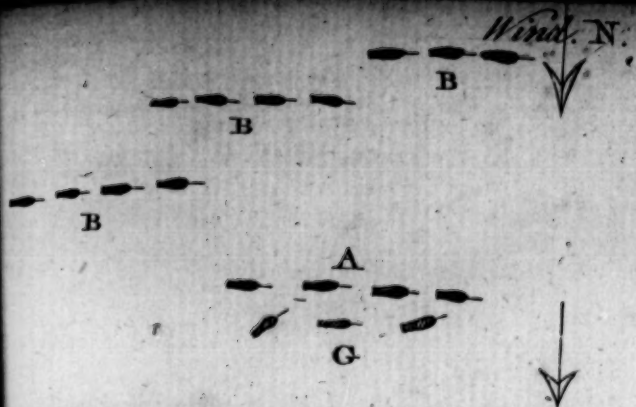


Fig. 8.



Fig. 9.

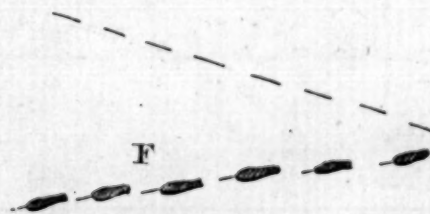
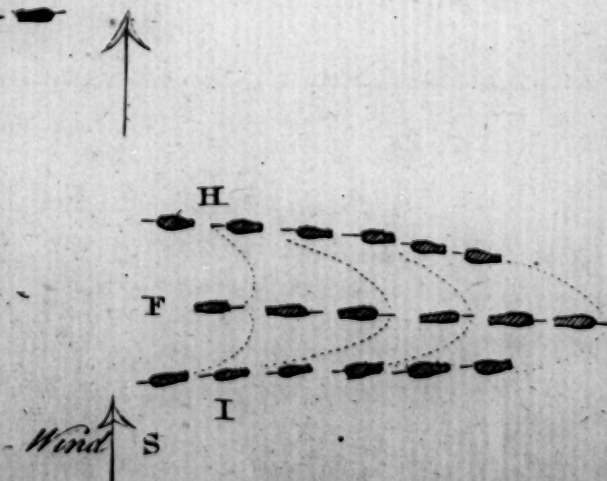
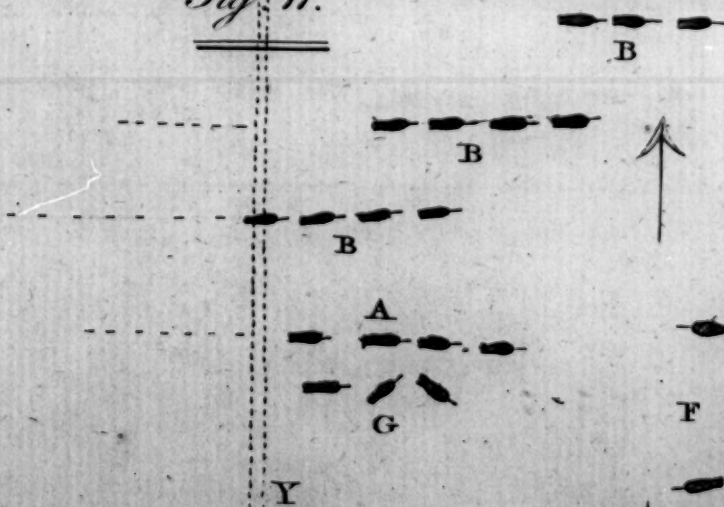


Fig. 10.



Fig. 11.



PATENT OFFICE LIBRARY

Mode of Attack proposed.

Fig. 1
N^o 209



Fig. 2.
N^o 210.

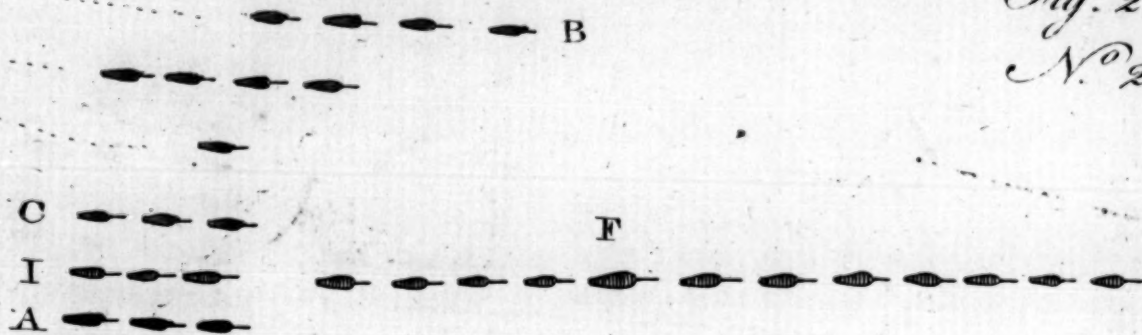


Fig. 3
N^o 211.

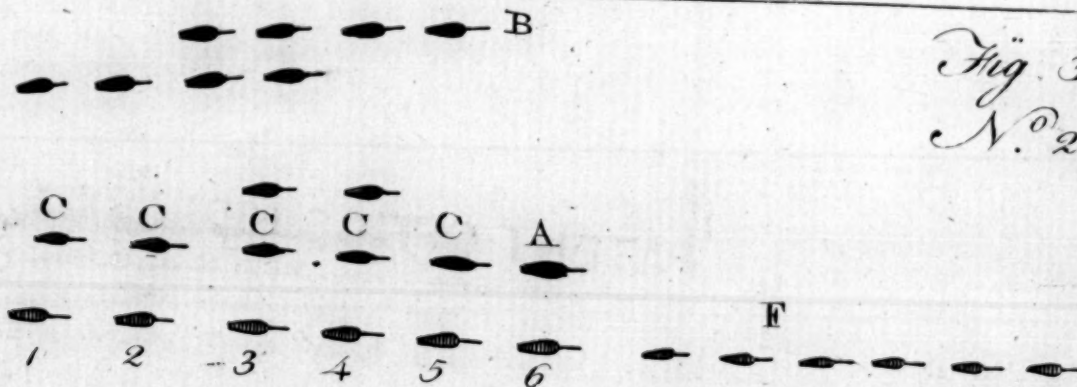
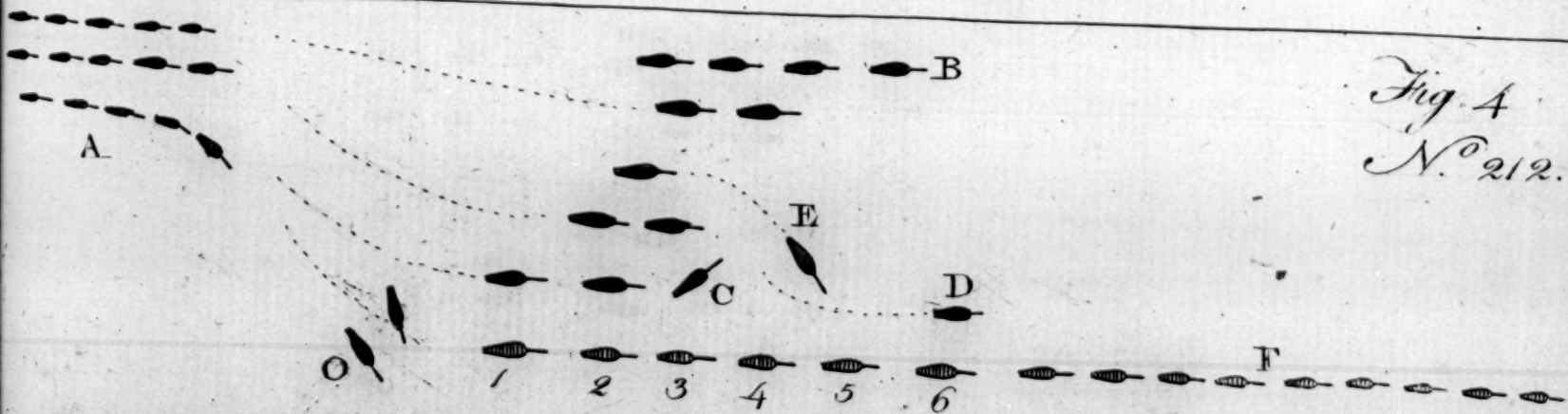


Fig. 4
N^o 212.



PATENT OFFICE LIBRARY

Sir G. Pococks Engagement
East Indies 29 April 1758.

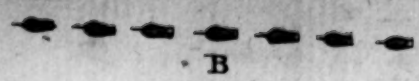


Fig. 1.

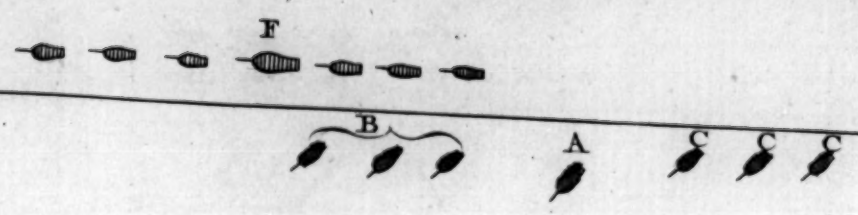


Fig. 2.

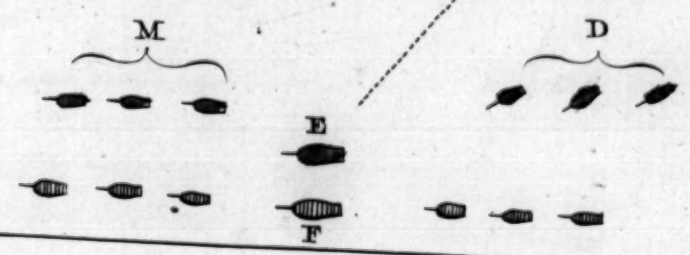


Fig. 3.

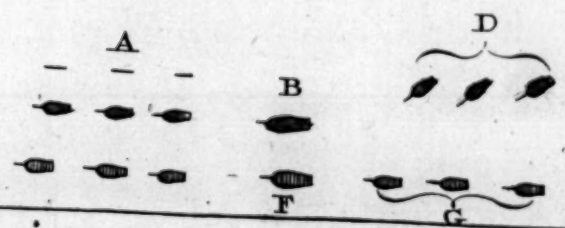


Fig. 4.

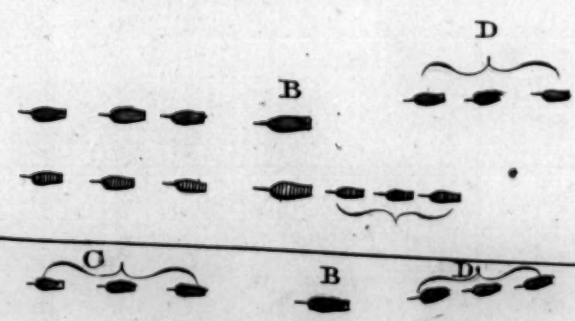
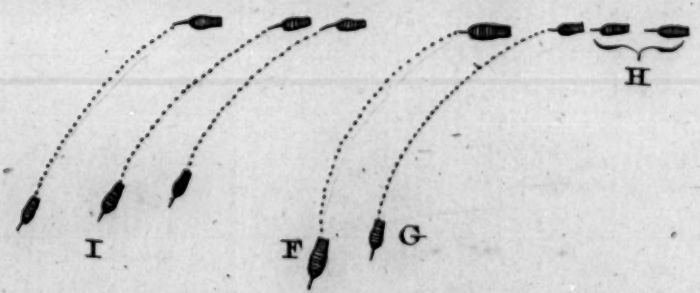


Fig. 5.



PATENT OFFICE LIBRARY

*Sir G. Pococks Engagement
East Indies 29 April 1758.*

Plate XXVIII.

Fig. 6.

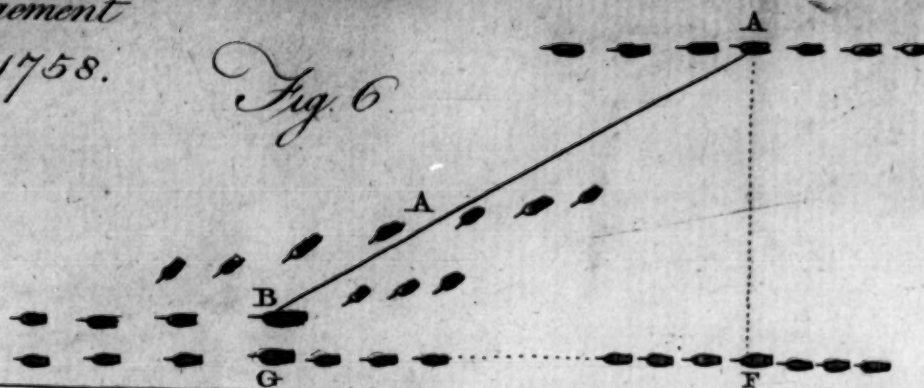
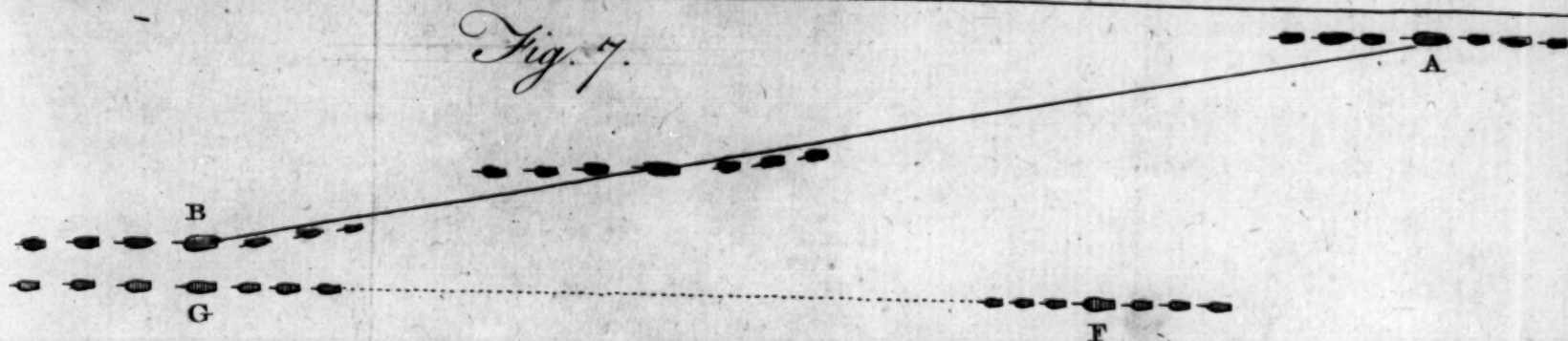


Fig. 7.



Curve of Pursuit.

Fig. 8.

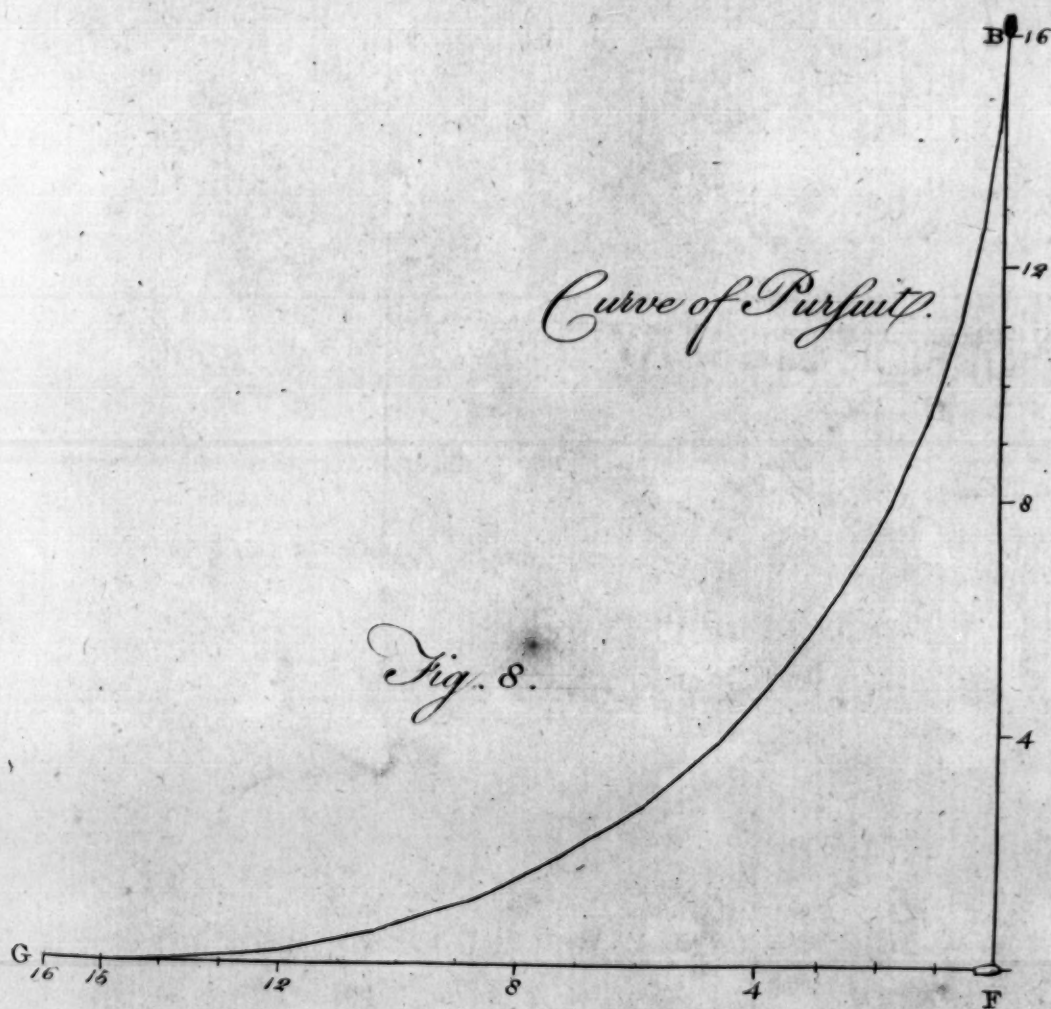
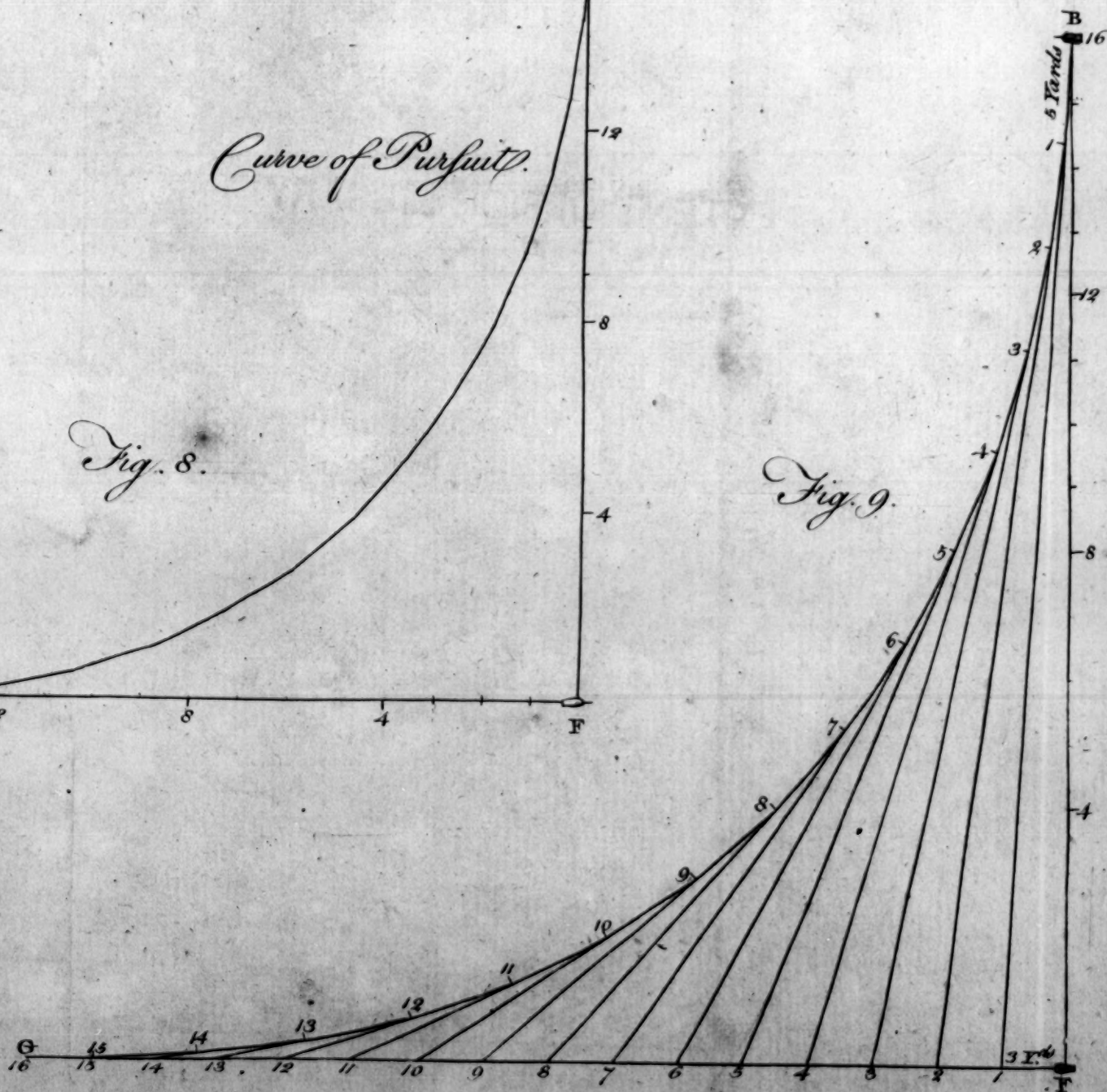
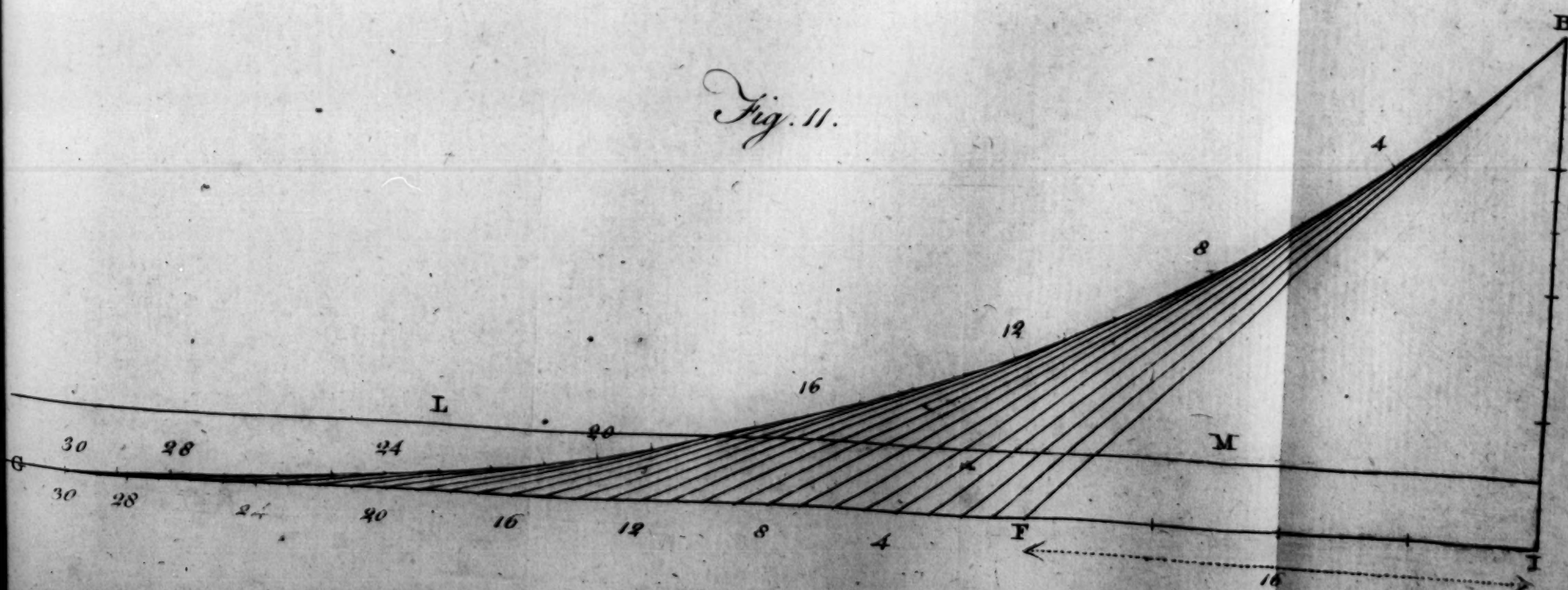


Fig. 9.



PATENT OFFICE LIBRARY

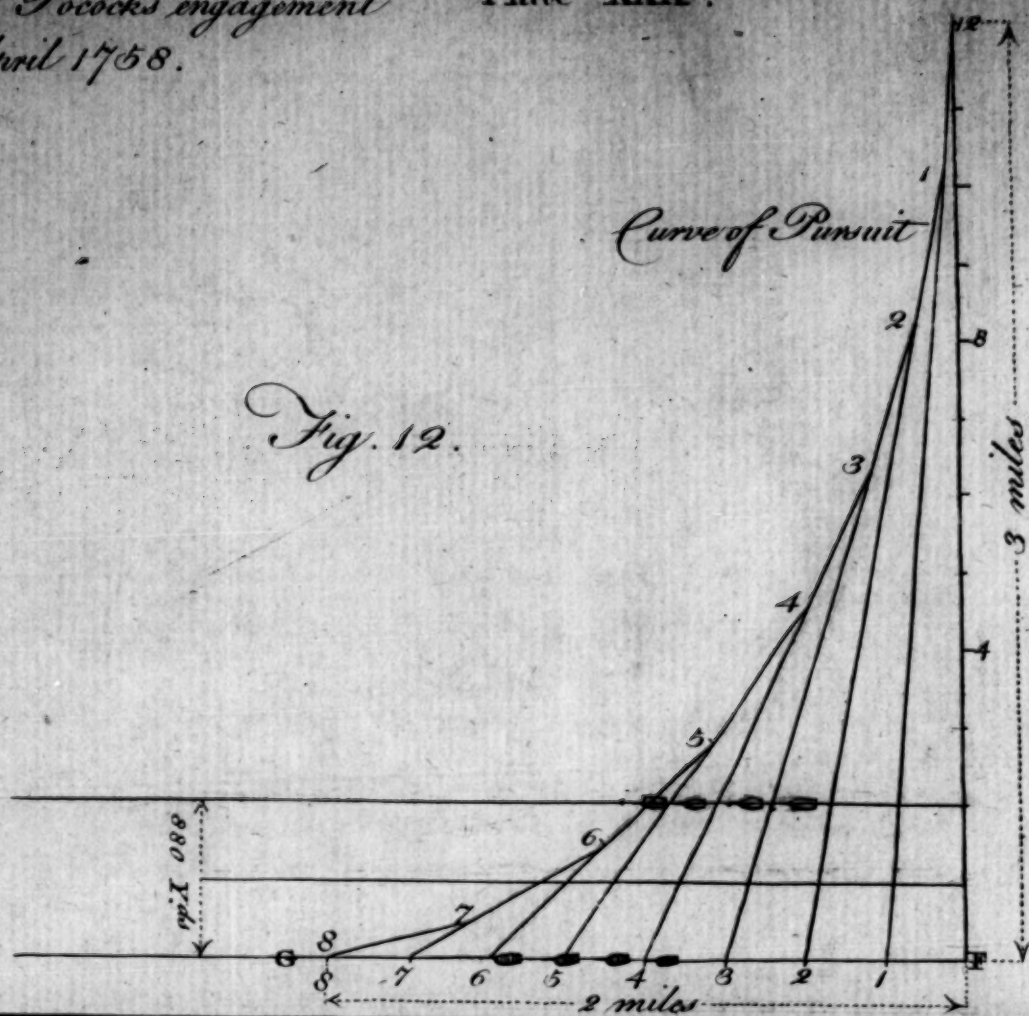
Plate XXIX.



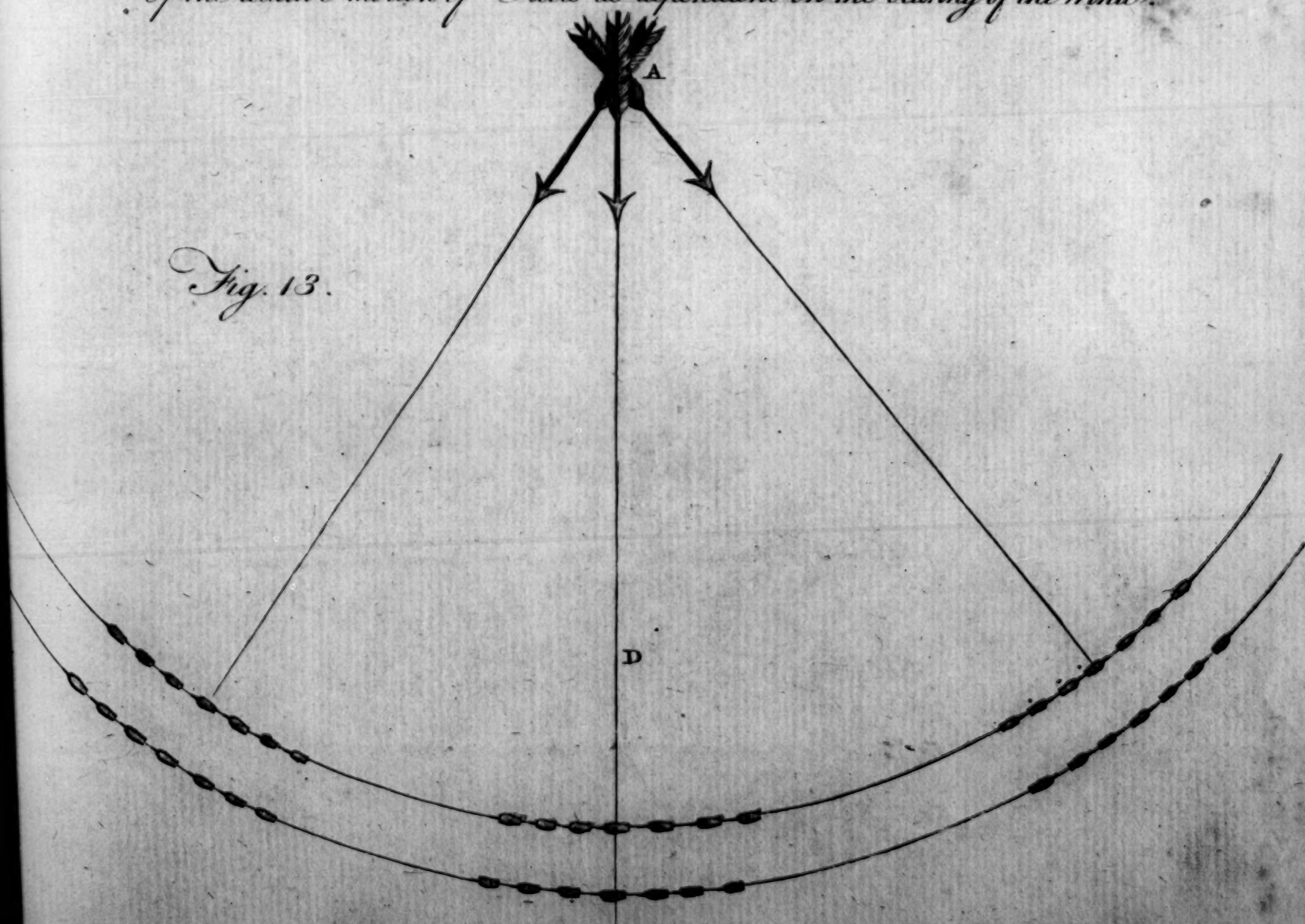
PATENT OFFICE LIBRARY

*Sir G. Pococks engagement
29 April 1758.*

Plate XXX.



*Historical Sketch
Of the relative motion of Fleets as dependant on the bearing of the Wind.*



PATENT OFFICE LIBRARY